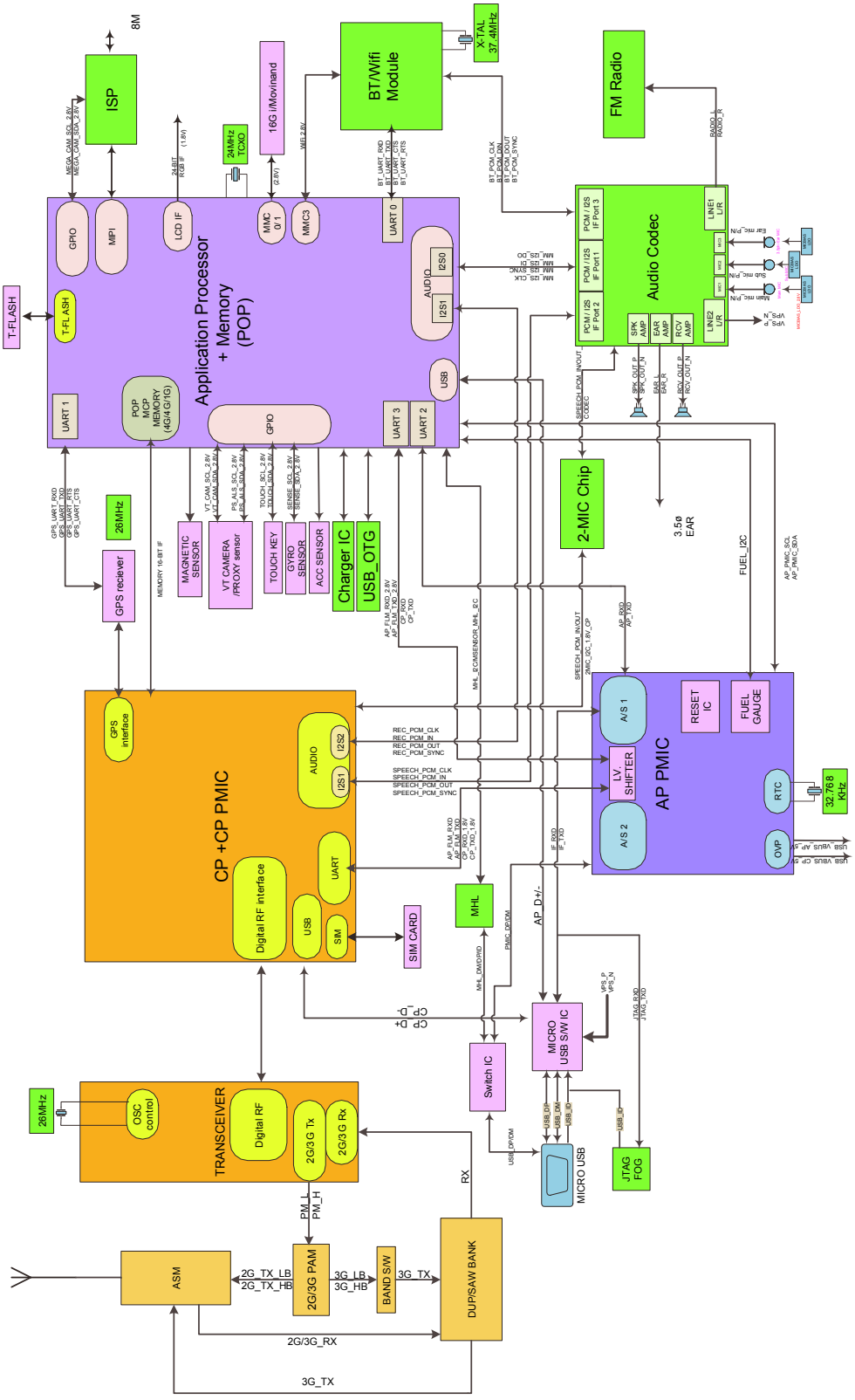
# 8. Level 3 Repair

## 8-1. Block Diagram



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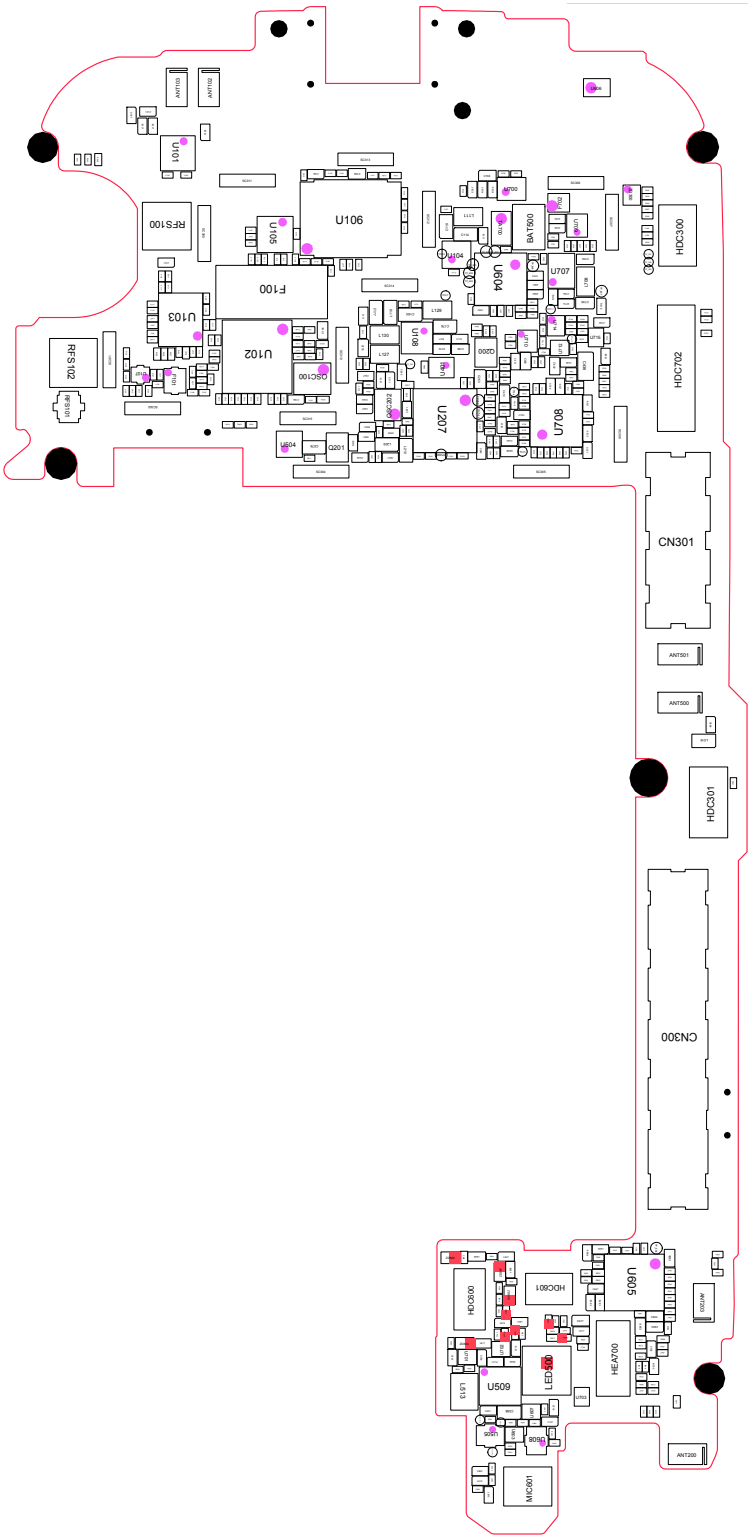
## 8-2. PCB Diagrams

### 8-2-1. Top



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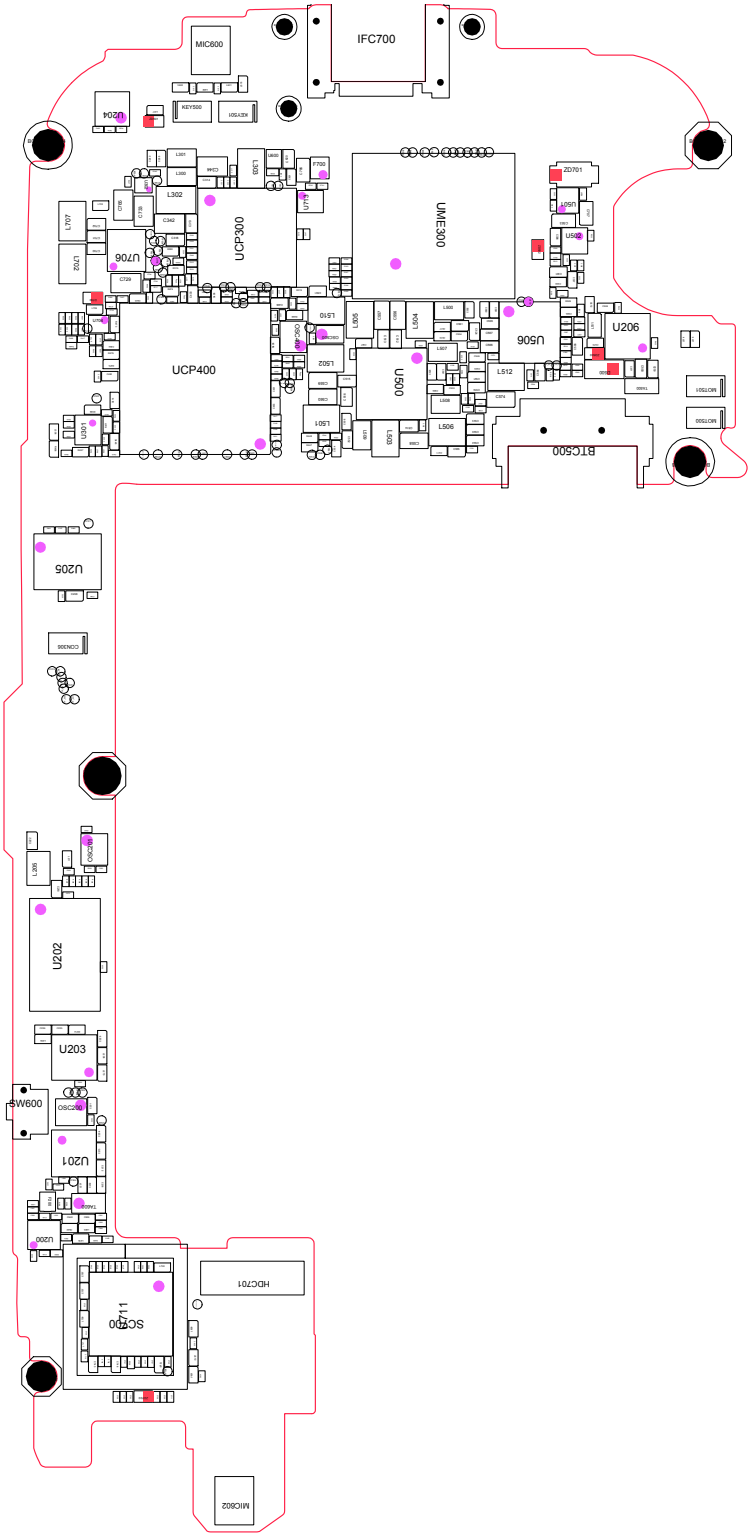
## 8-2-2. Bottom



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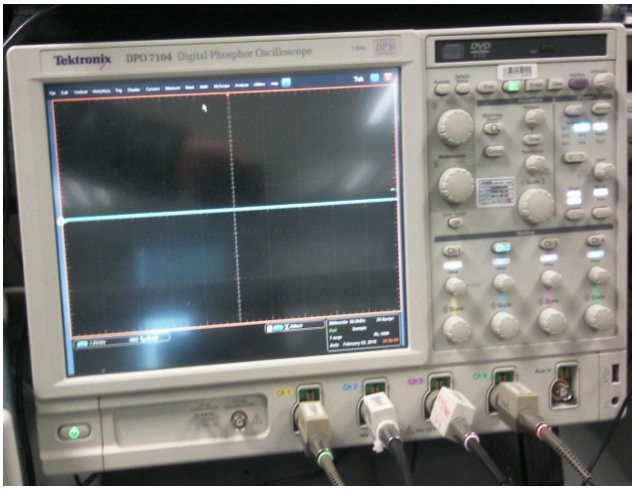
## 8-3. Flow Chart of Troubleshooting

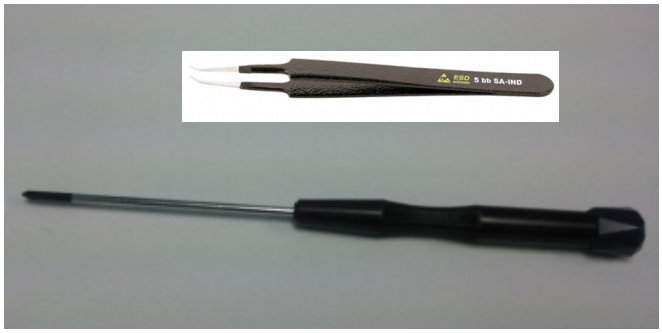
### Equipments



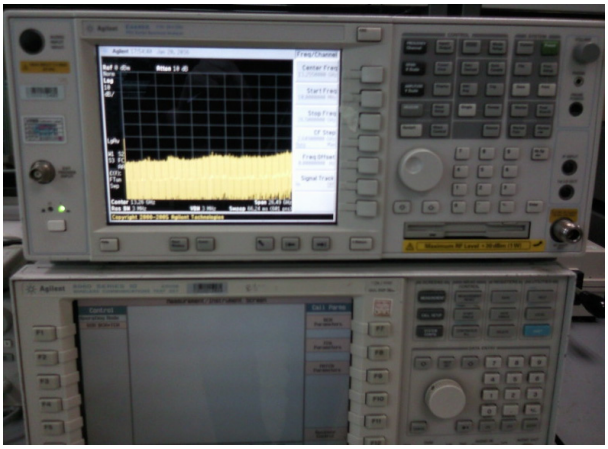

↑ Oscilloscope

↑ Digital Multimeter

↑ Power Supply



↑ + driver, ESD Safe Tweezer



↑ 8960 & Spectrum Analyzer

↑ Soldering iron



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## 8-3-1. Power On

Cell-phone can`t power on.
Check the Battery Voltage.
Is it more than 3.4V?
No
Charging the battery by TA.
If its voltage level is extremely low(under 3.0V),
Change the battery.
Yes
Power-on the phone and check
the power-on sound
or motor biration.
Sound or Biration is ok?
Yes
Change the MEA FRONT-OCTA LCD ASSY
No
Check the SW600
(soldering crack, open, etc)
Abnormal
Change the SW600(Power-key)
And retry to the power-on operation.
Yes
Check the U500 output voltage
(C561 = 1.0V, C559 = 1.1V,
C558 = 1.0V, C556 = 1.0V)
No
If the output voltage is not satisfied with normal condition, Change the U501.
※ Each voltage will be changed from 0.9V to 1.3V during booting.
Yes
Check the U500 output signal
(AP_PS_HOLD(TP) > 1.8V)
No
If the output voltage is not satisfied with normal. condition, Change the U500.
※ Each voltage level has ±10% margin.
Yes
Check the Clock OSC500(C505)
Is that frequency 32Khz?
No
Change the OSC500.
If OSC400 does not still work, Change the U501
This problem is internal oscillator of U501.
※ Test condition (Oscilloscope setting)
: 20.0us.div (time division)
Yes
check the initial operation
Yes
END



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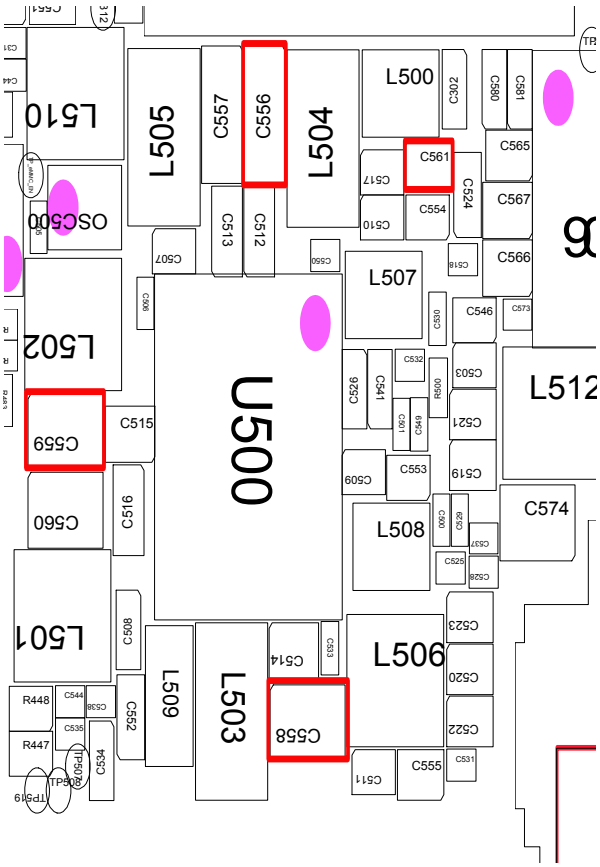


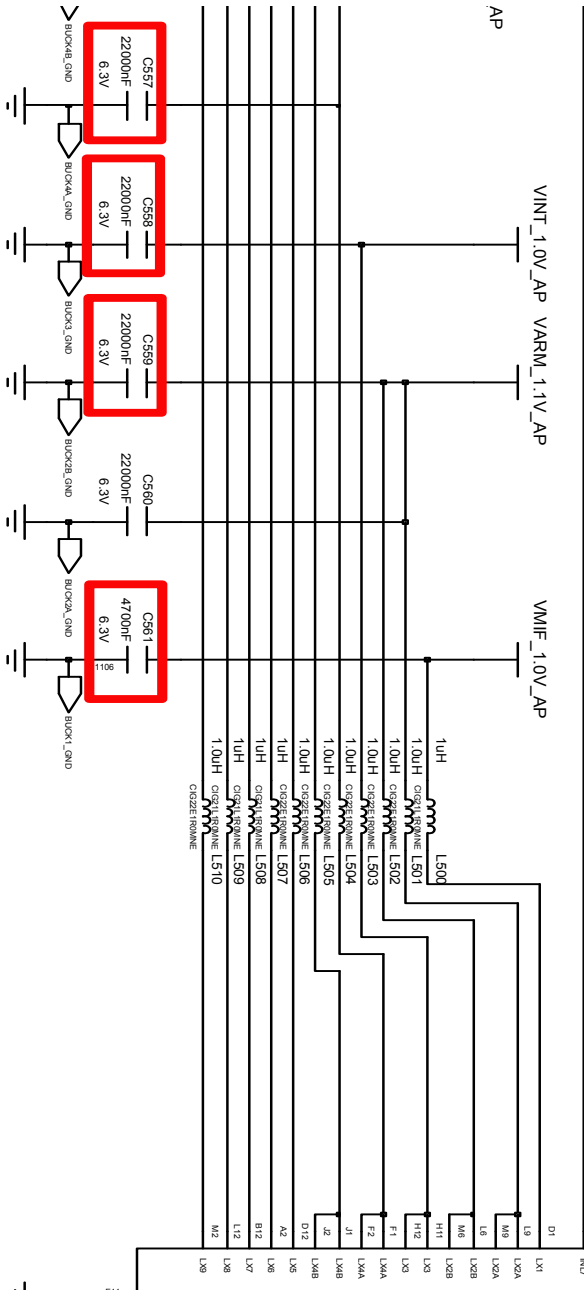




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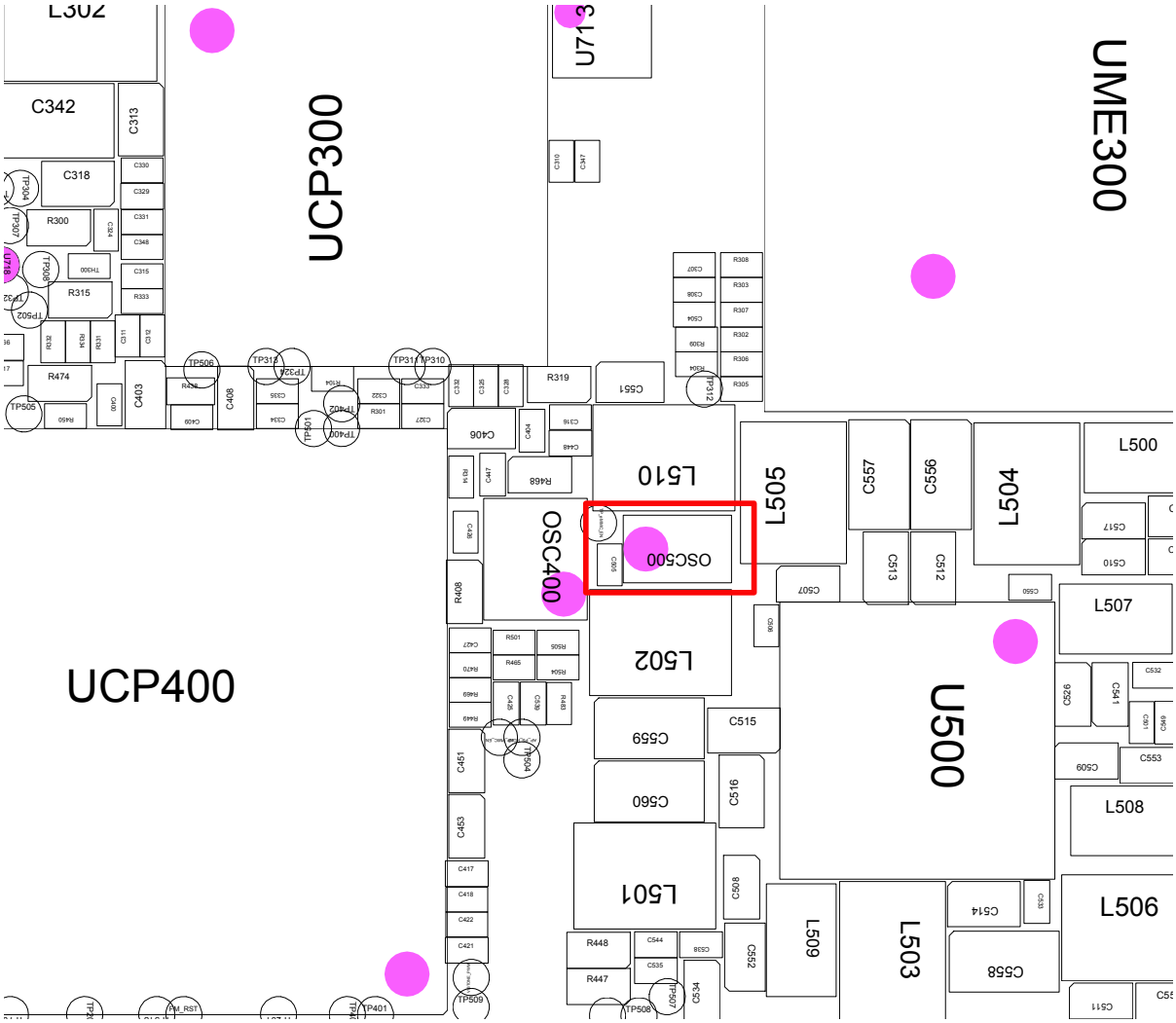




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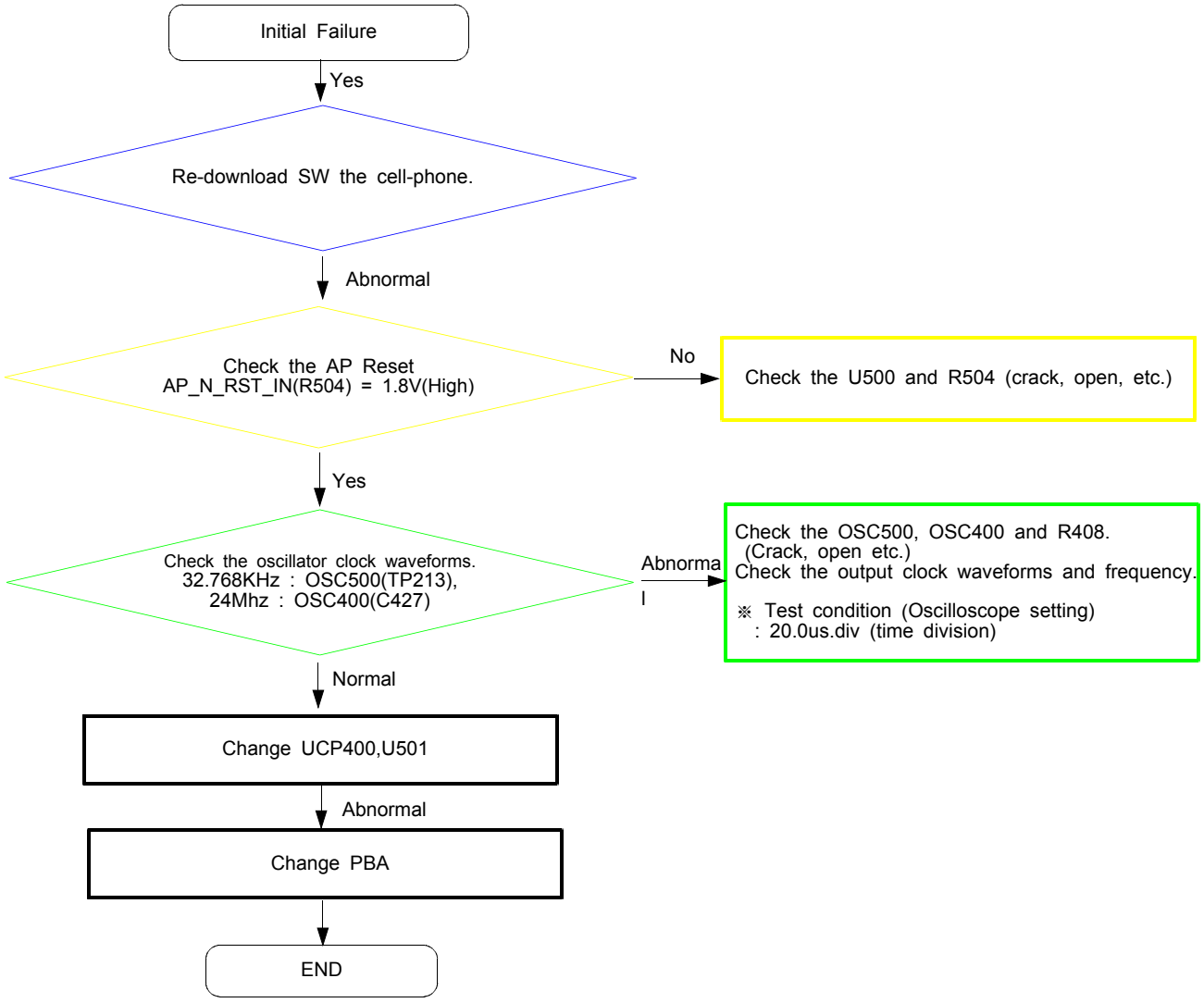
## 8-3-2. Initial



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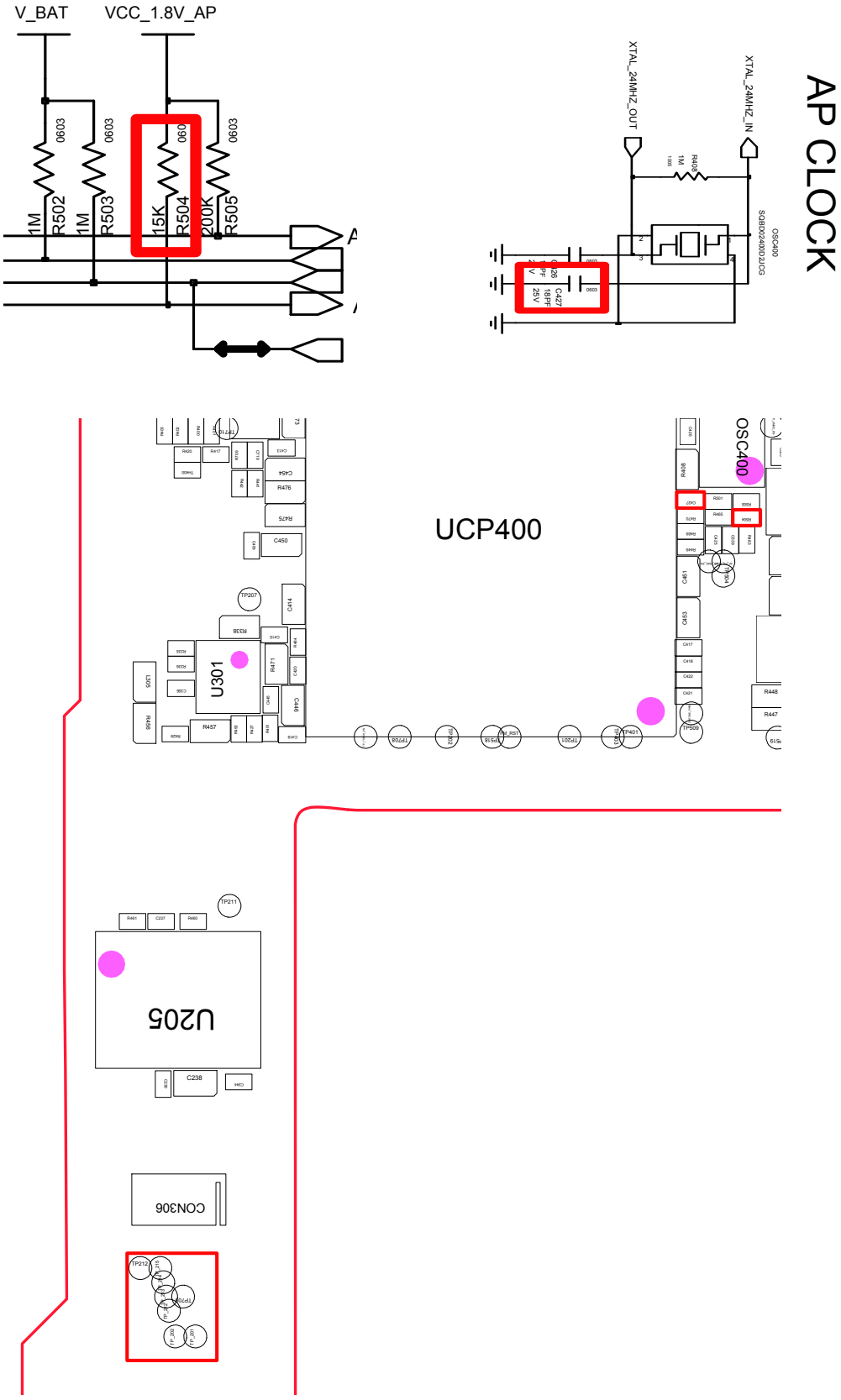




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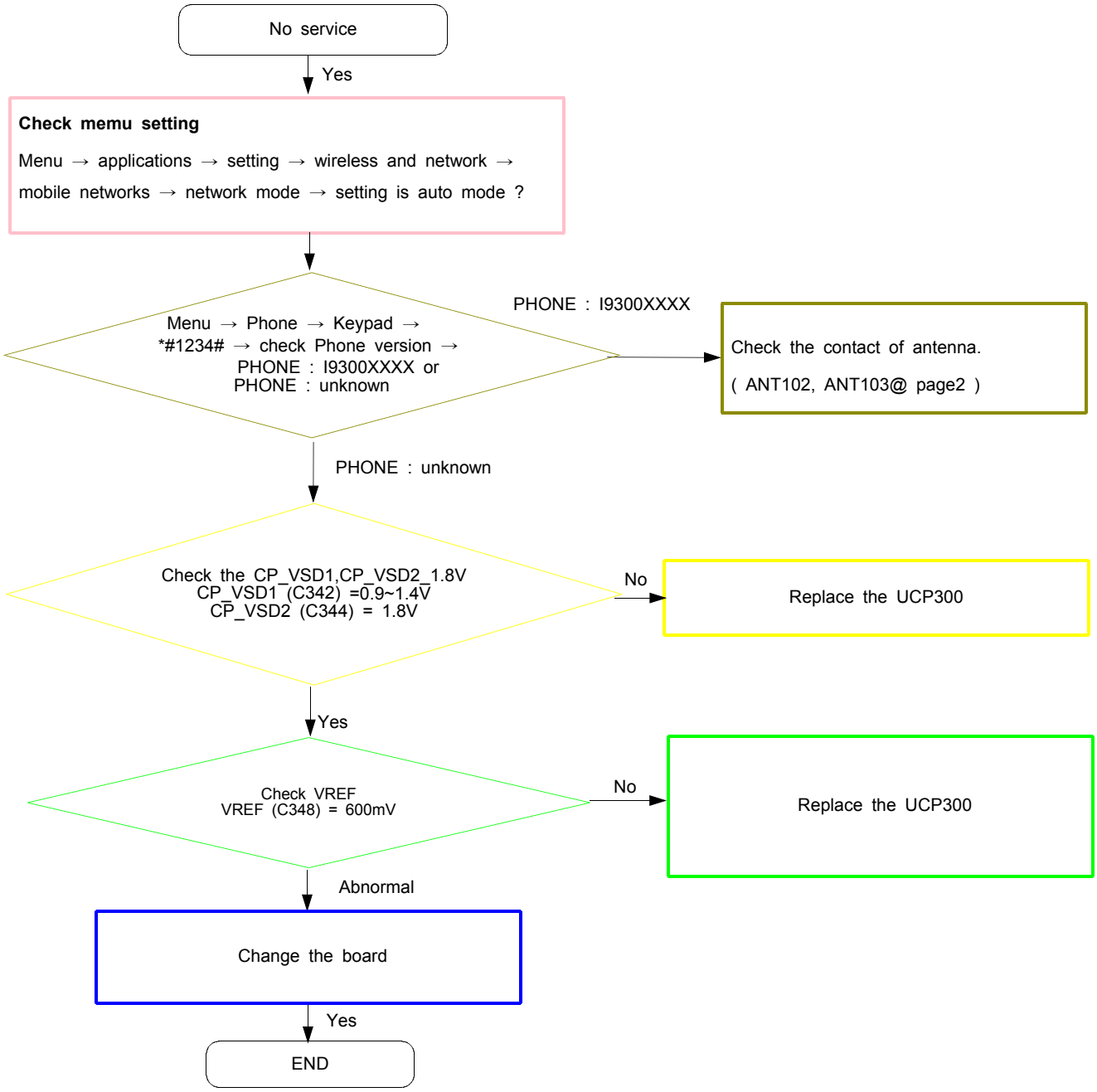
## 8-3-3. No Service


No service
Yes
Check memu setting
Menu → applications → setting → wireless and network → mobile networks → network mode → setting is auto mode ?
Menu → Phone → Keypad → *#1234# → check Phone version → PHONE : I9300XXXX or PHONE : unknown
PHONE : I9300XXXX
Check the contact of antenna.
( ANT102, ANT103@ page2 )
PHONE : unknown
Check the CP_VSD1,CP_VSD2_1.8V
CP_VSD1 (C342) =0.9~1.4V
CP_VSD2 (C344) = 1.8V
No
Replace the UCP300
Yes
Check VREF
VREF (C348) = 600mV
No
Replace the UCP300
Abnormal
Change the board
Yes
END



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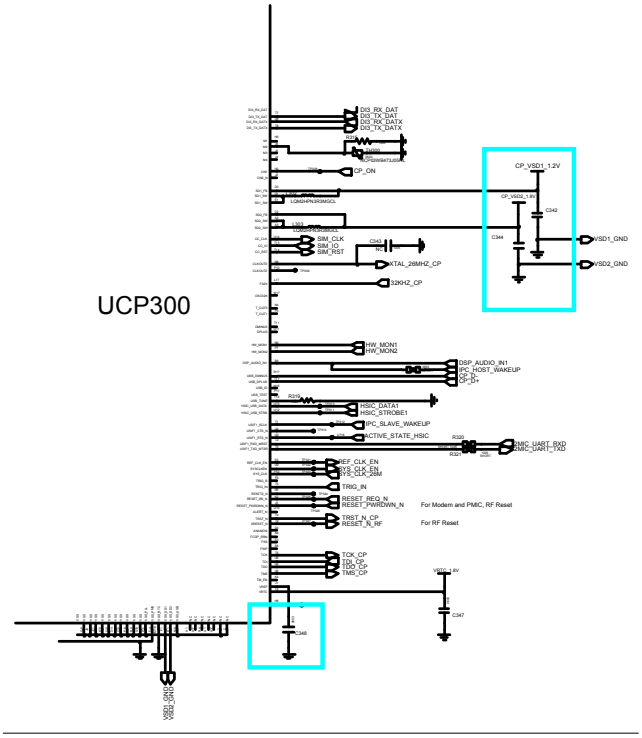


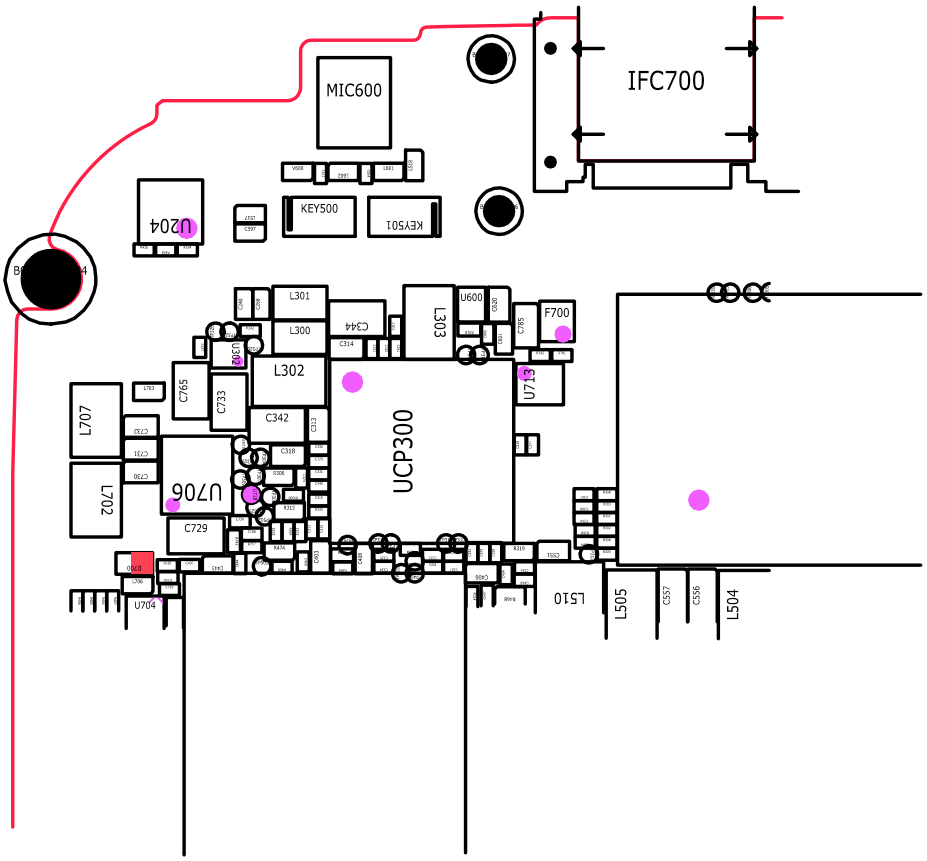




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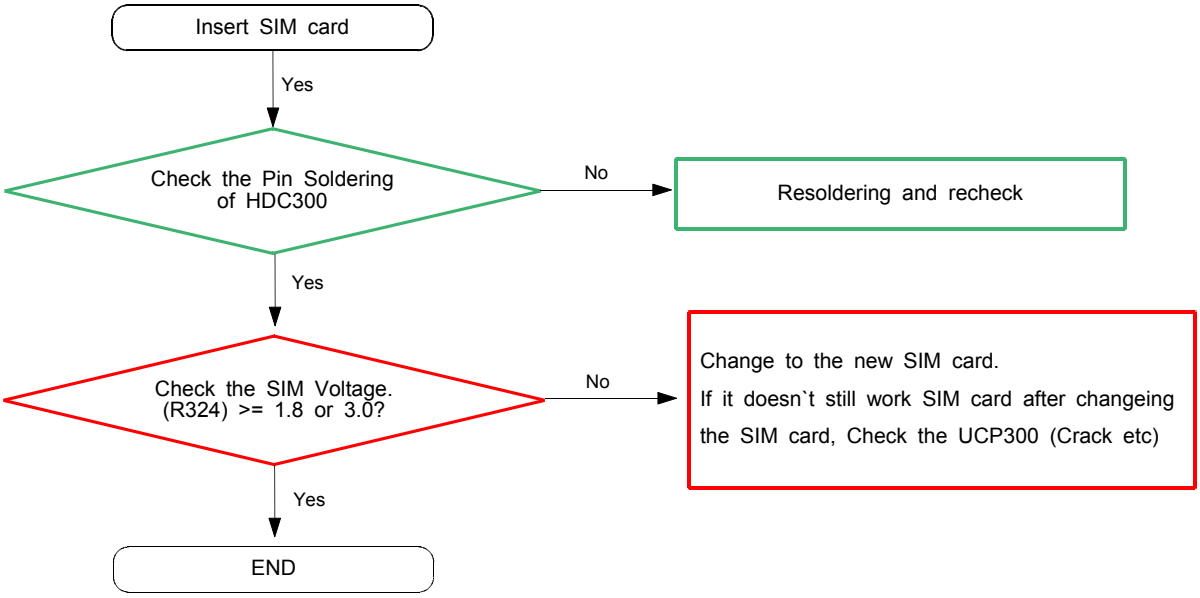
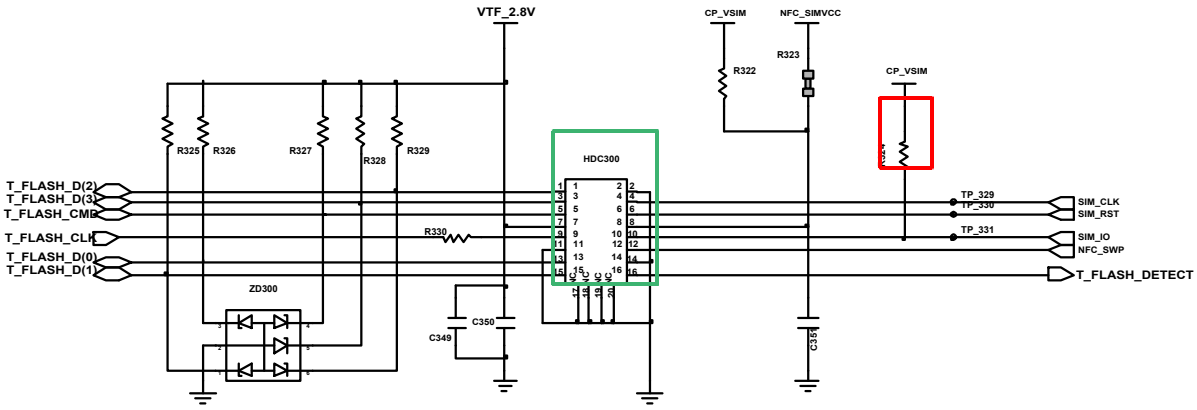
## 8-3-4. Sim Part


Insert SIM card
Yes
Check the Pin Soldering of HDC300
No
Resoldering and recheck
Yes
Check the SIM Voltage. (R324) >= 1.8 or 3.0?
No
Change to the new SIM card.
If it doesn`t still work SIM card after changeing the SIM card, Check the UCP300 (Crack etc)
Yes
END



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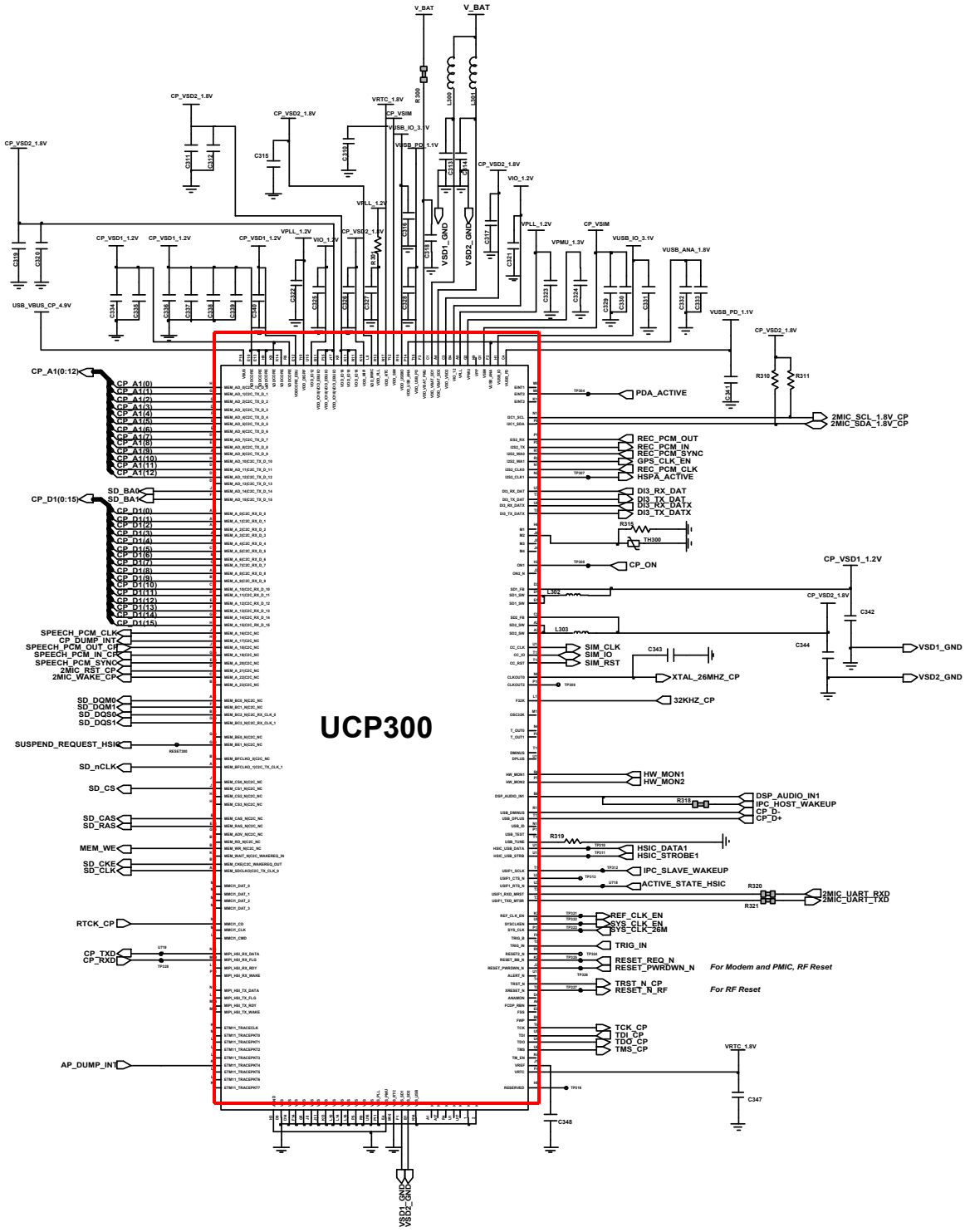




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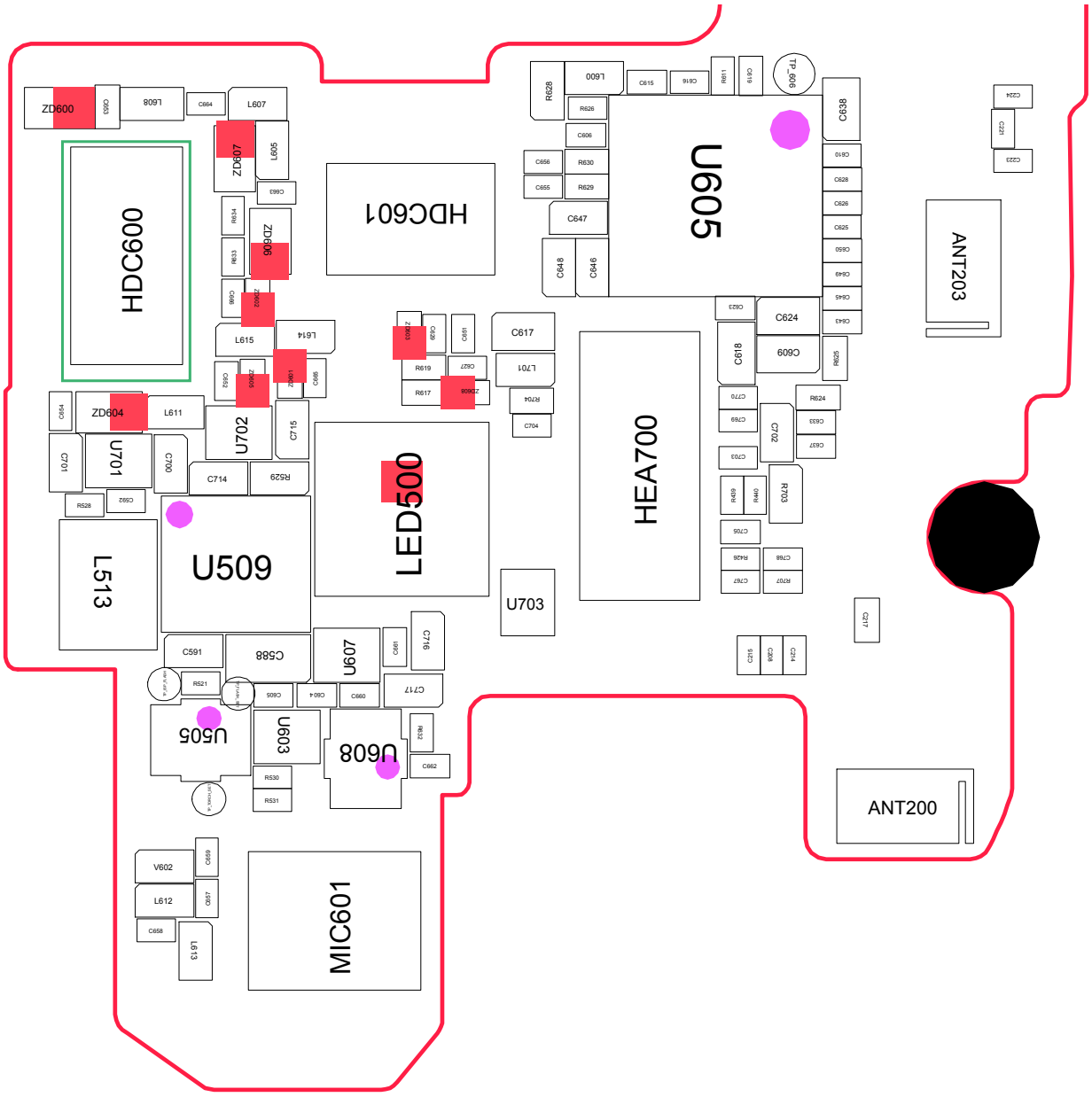




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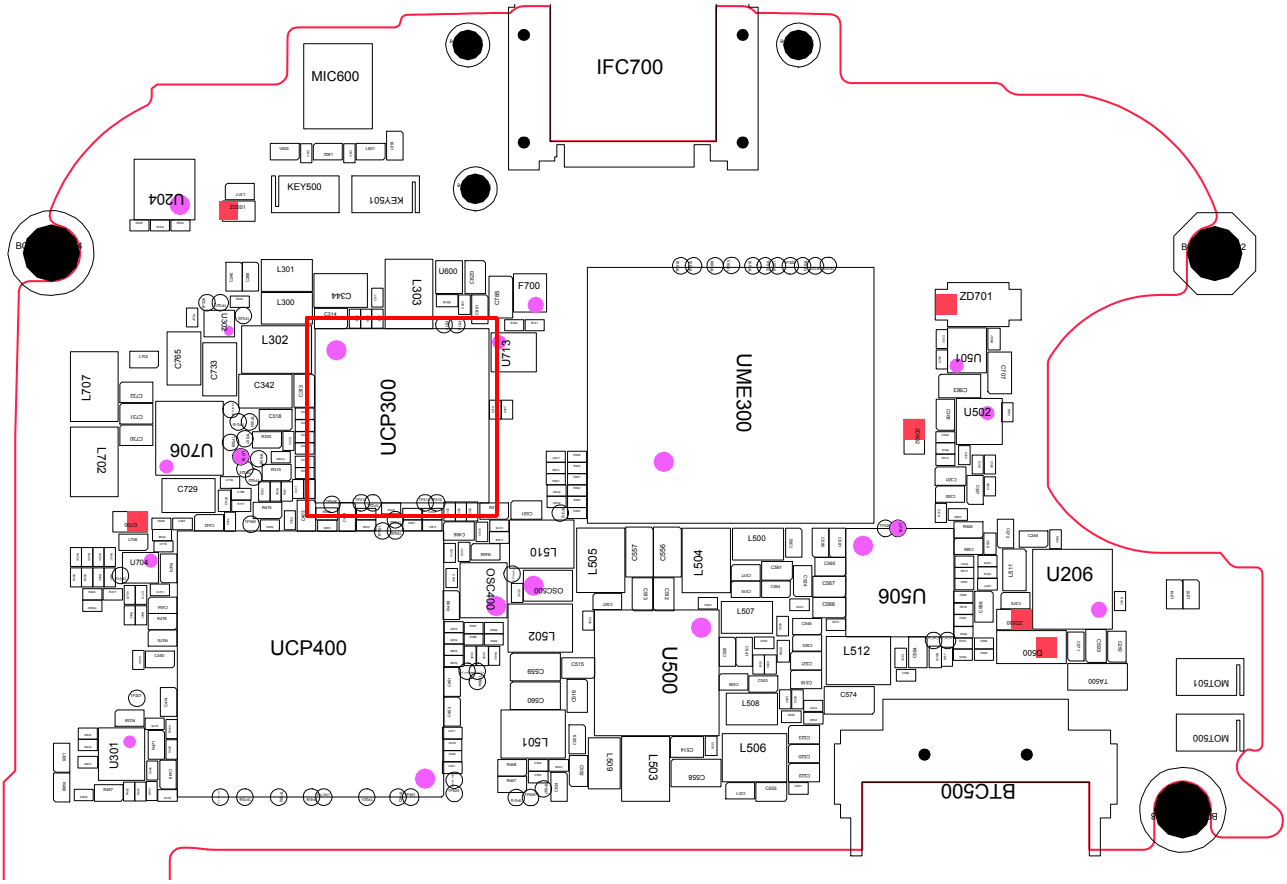

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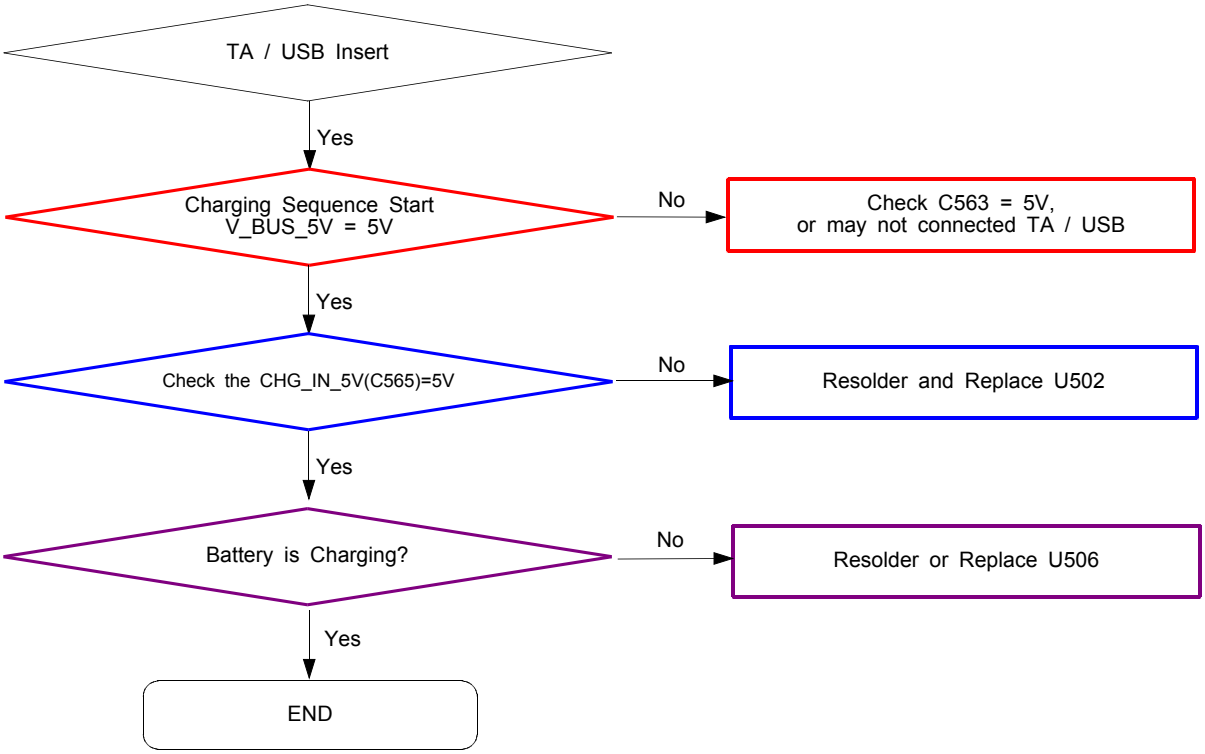
## 8-3-5. Charging Part



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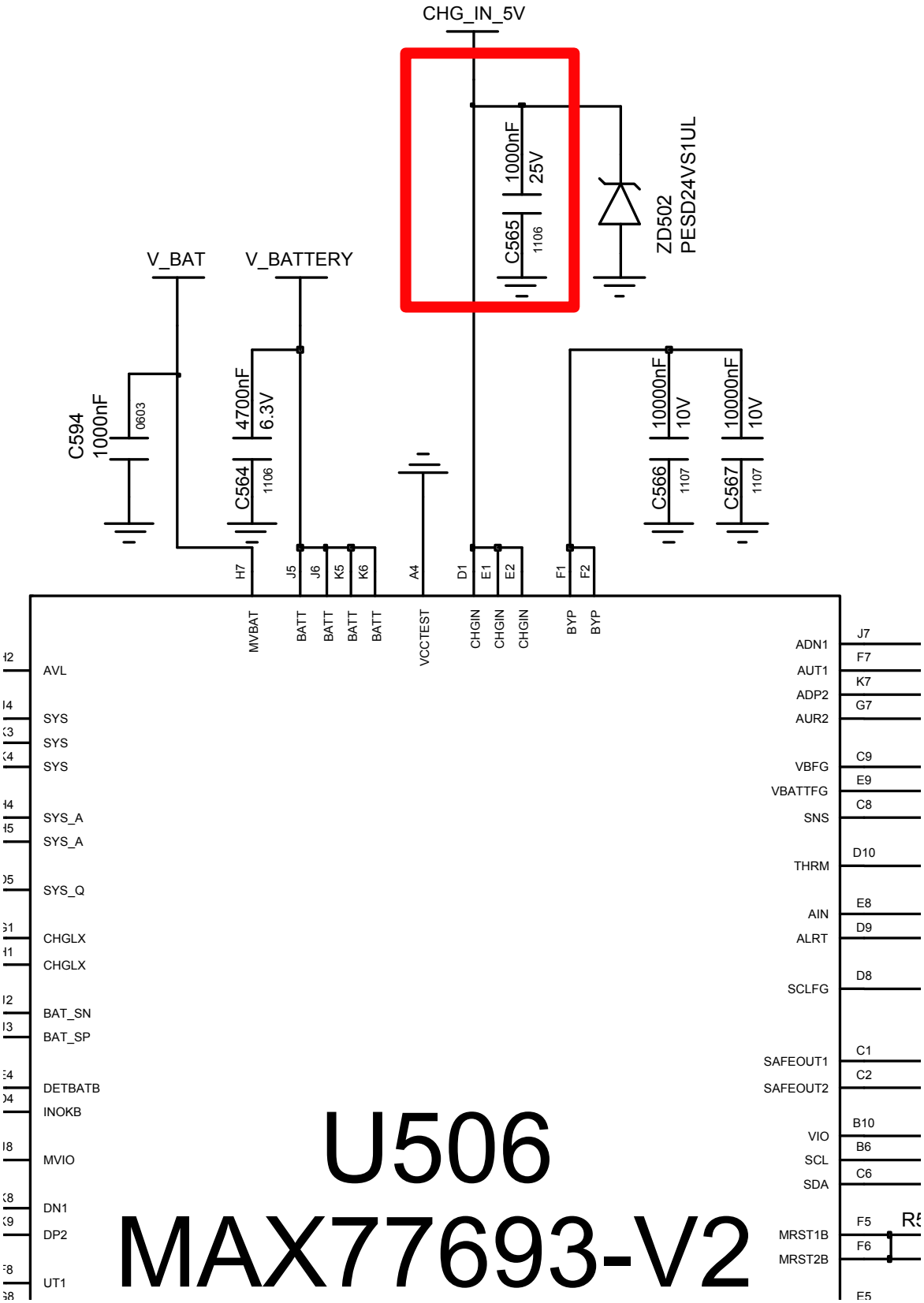




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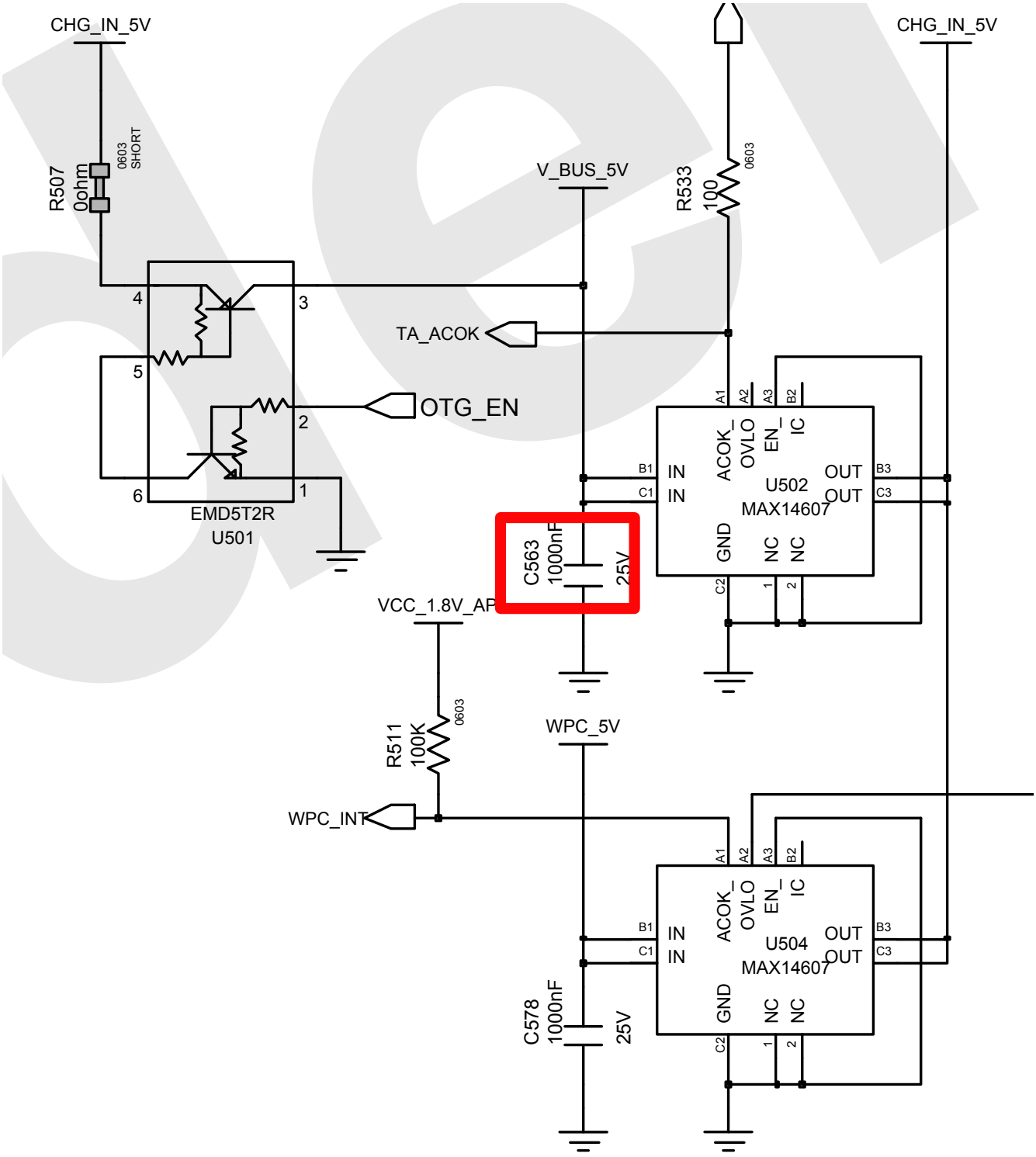




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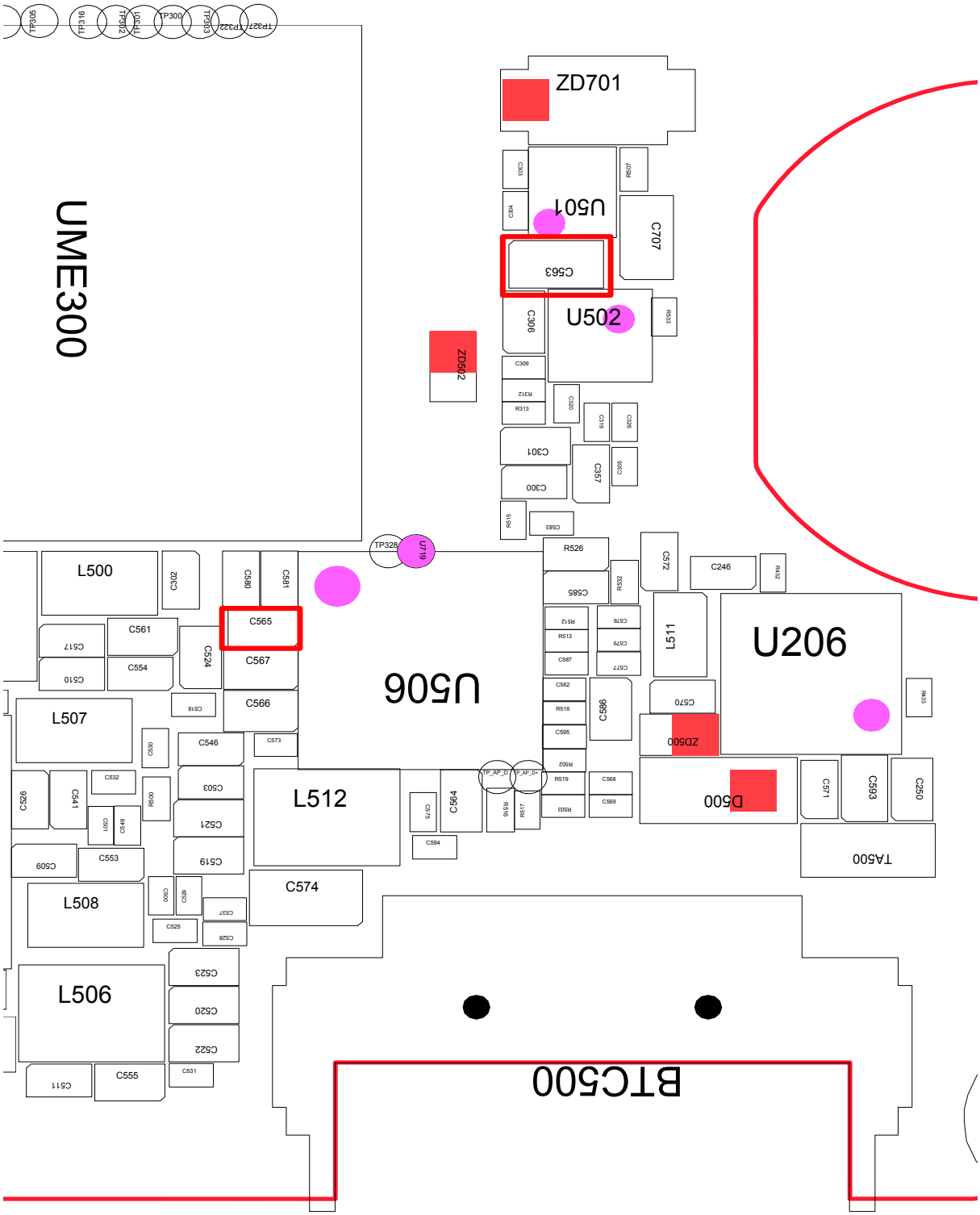




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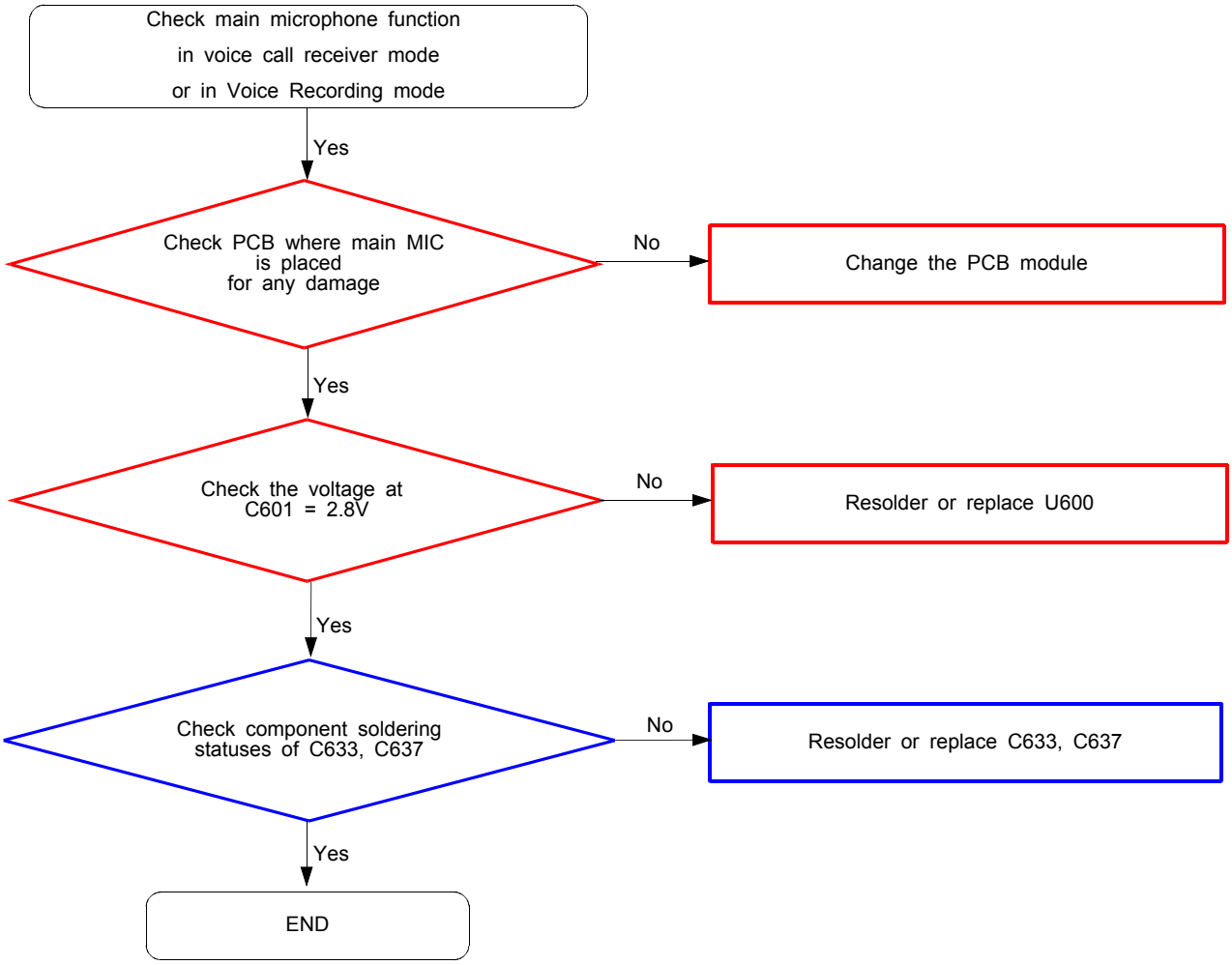
## 8-3-6. Microphone Part (Main MIC)



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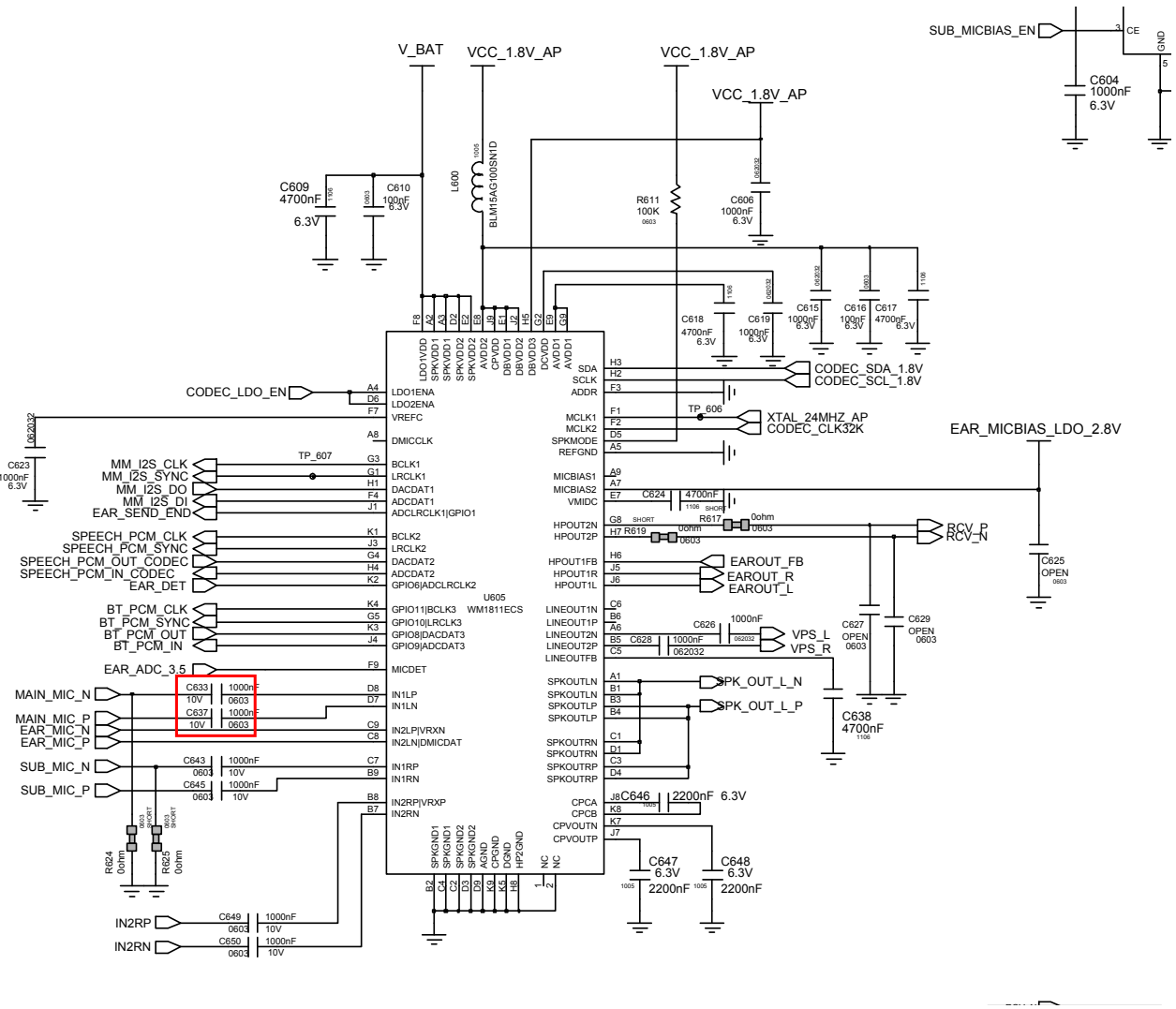


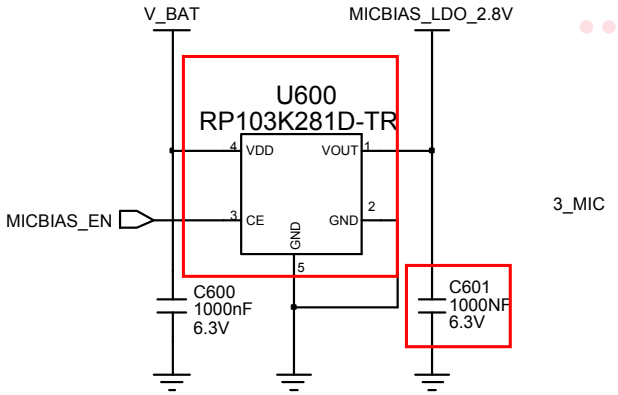




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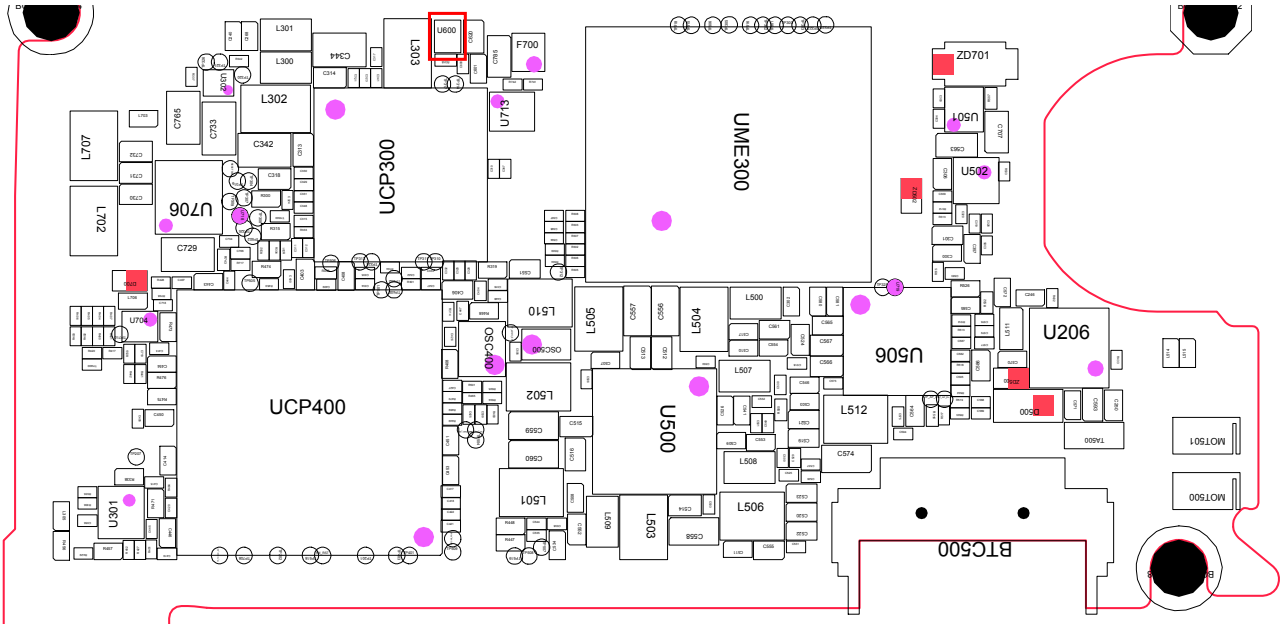


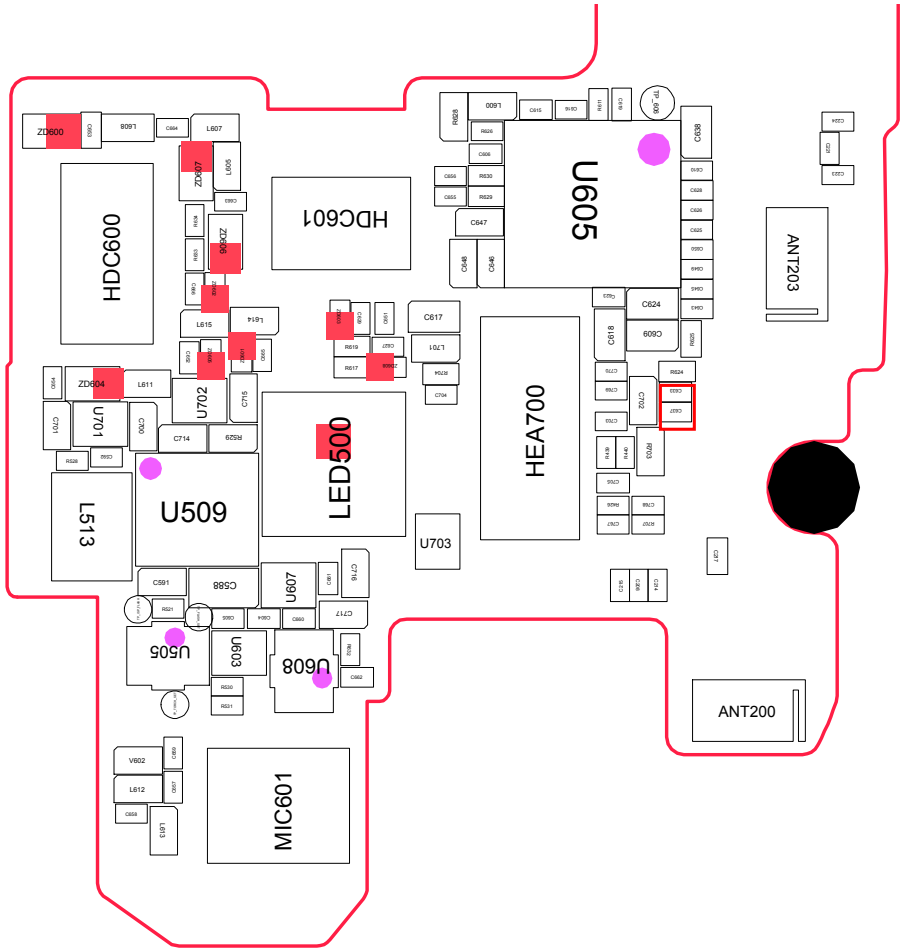




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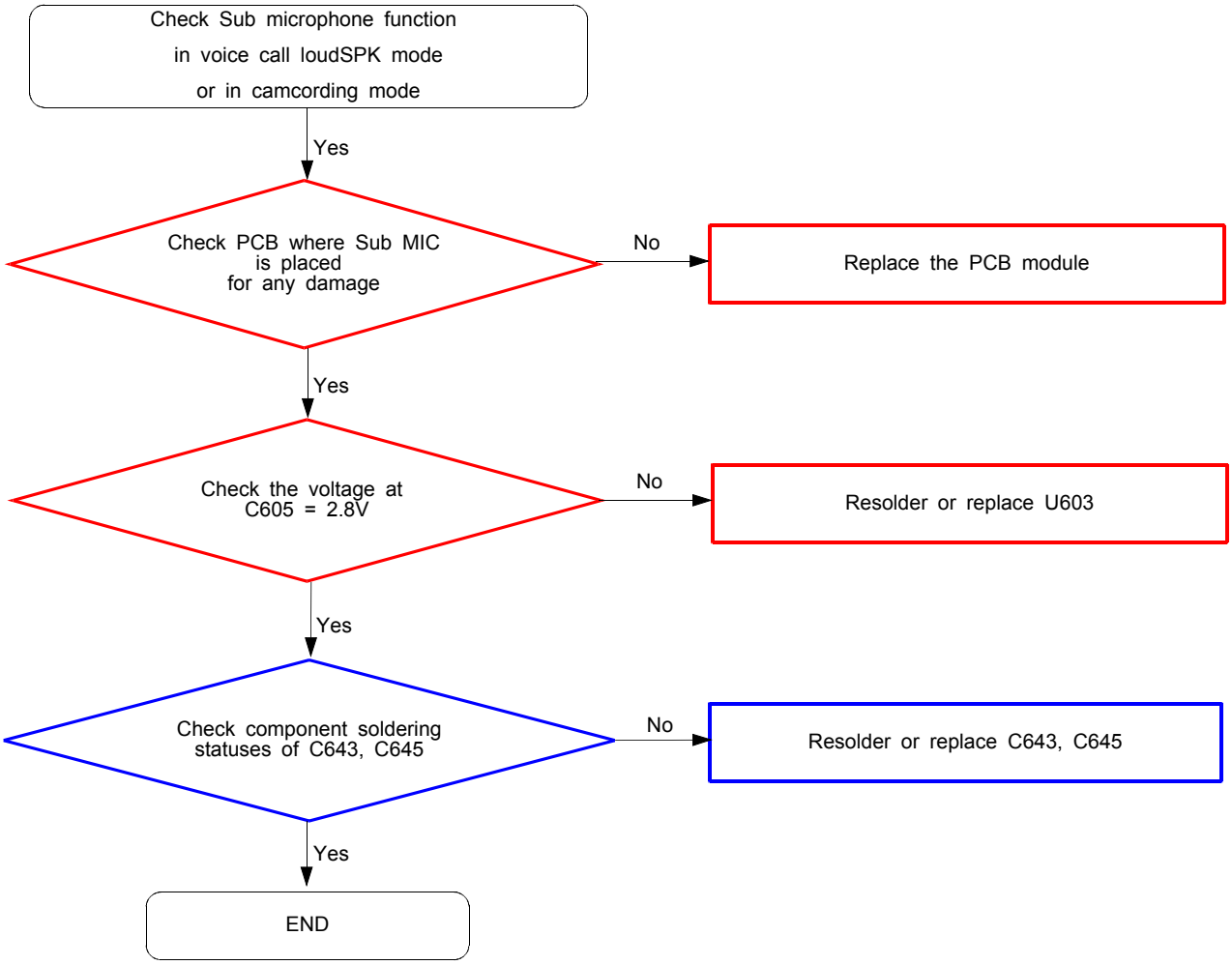
## 8-3-6-1. Microphone Part (Sub MIC)



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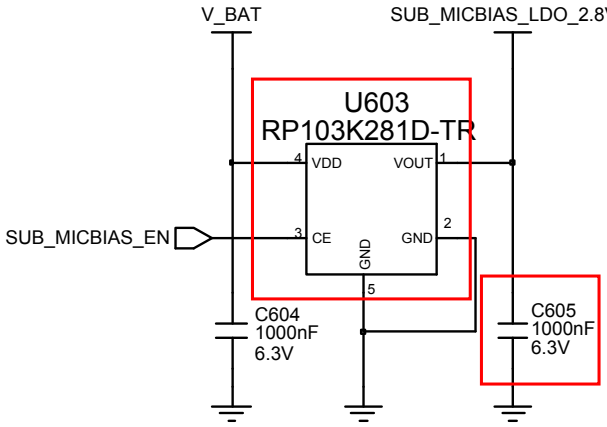


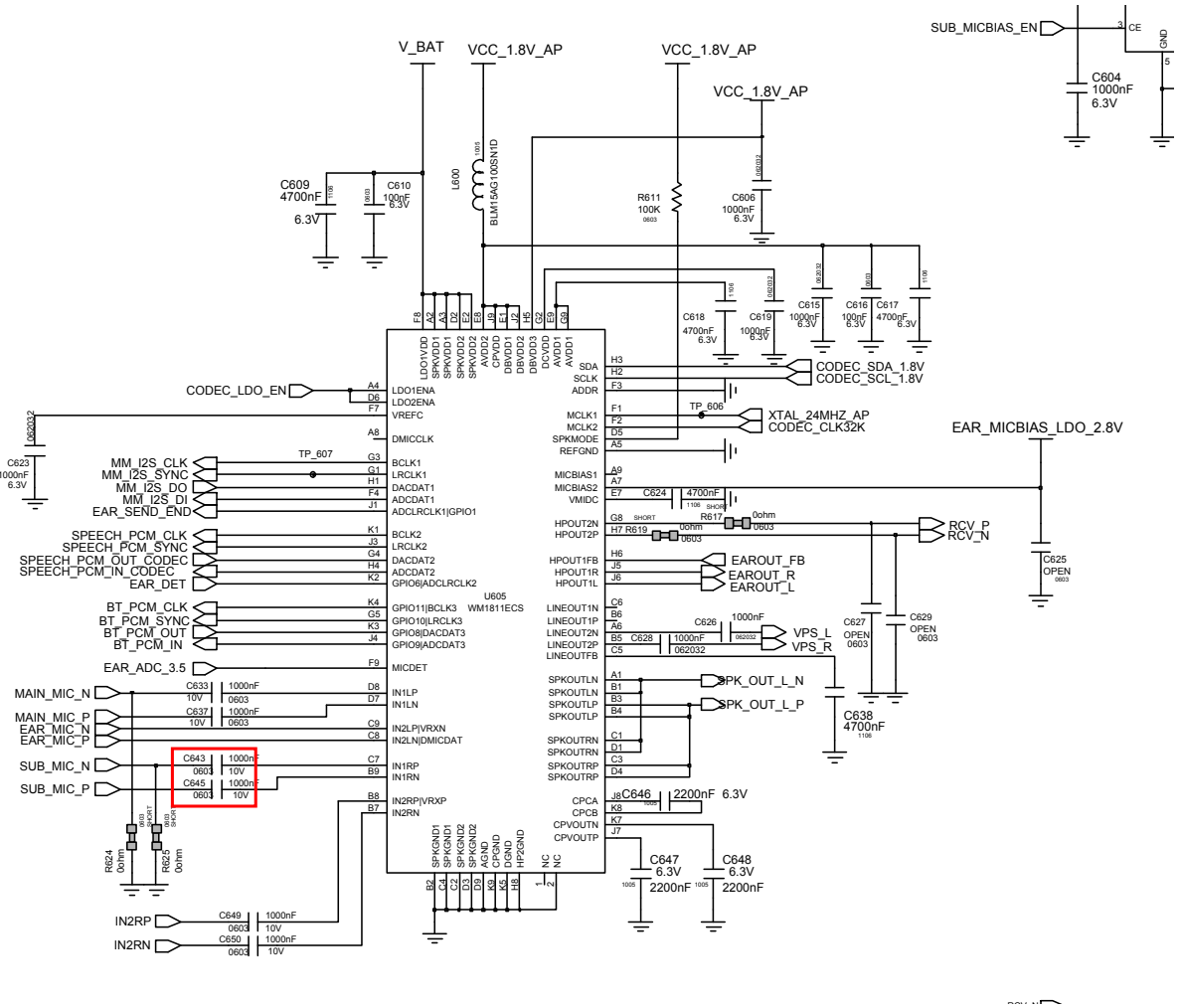




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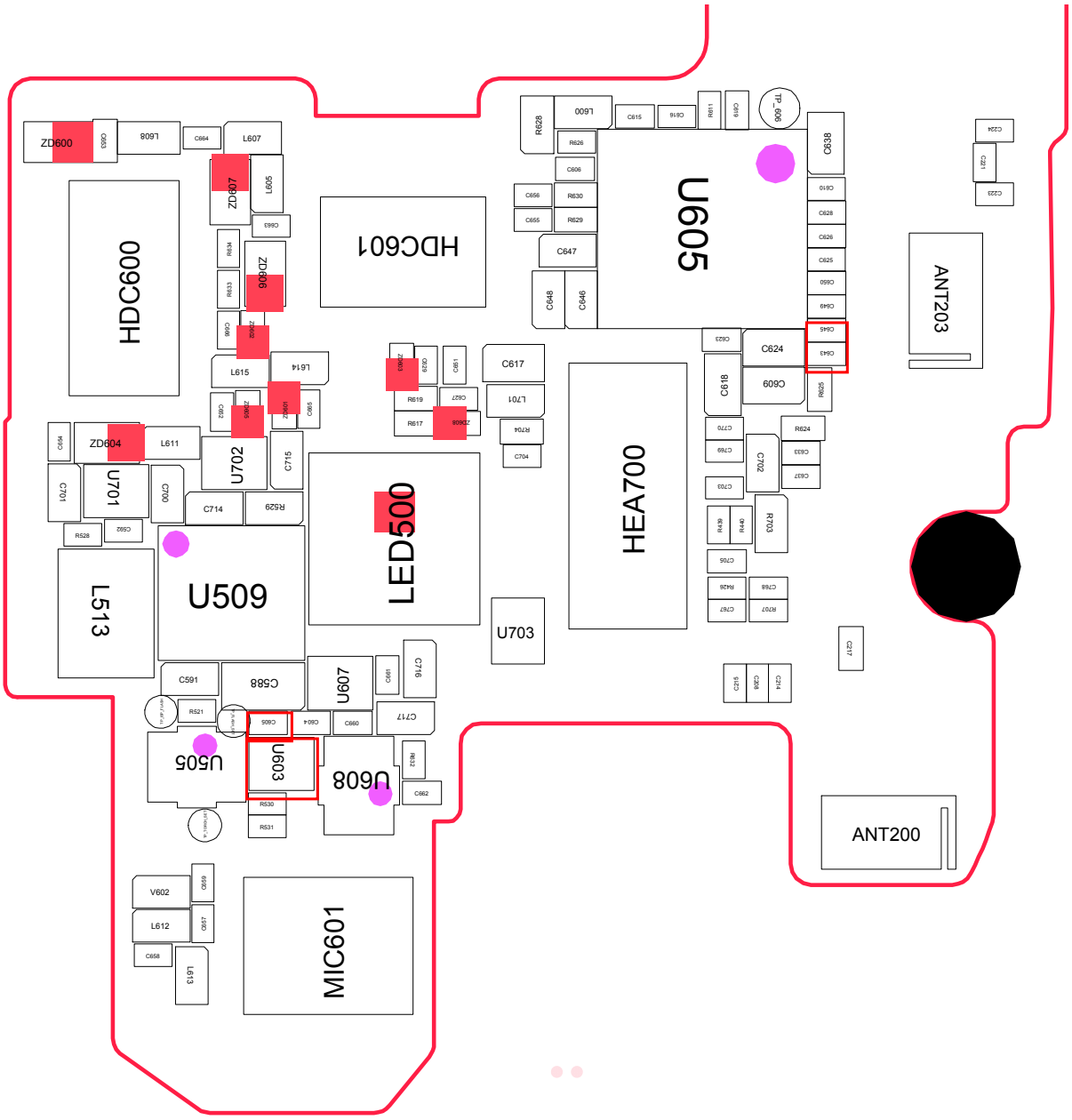




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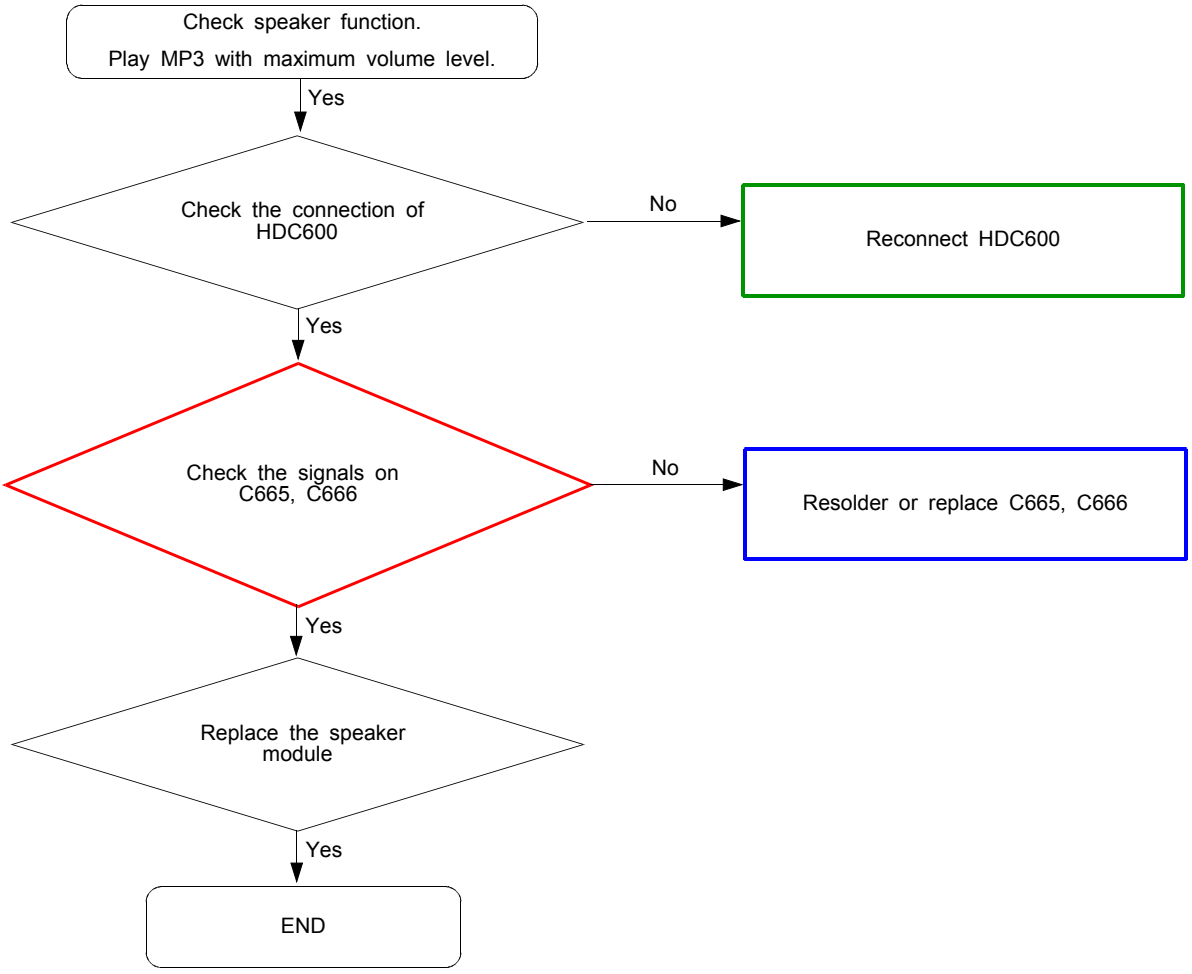
## 8-3-7. Speaker Part



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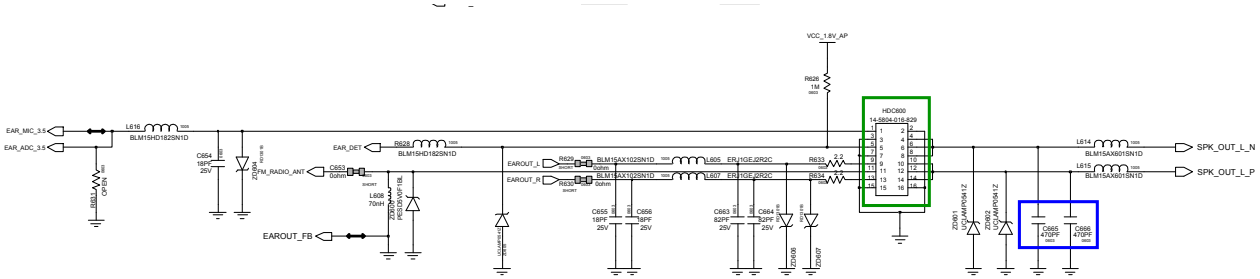


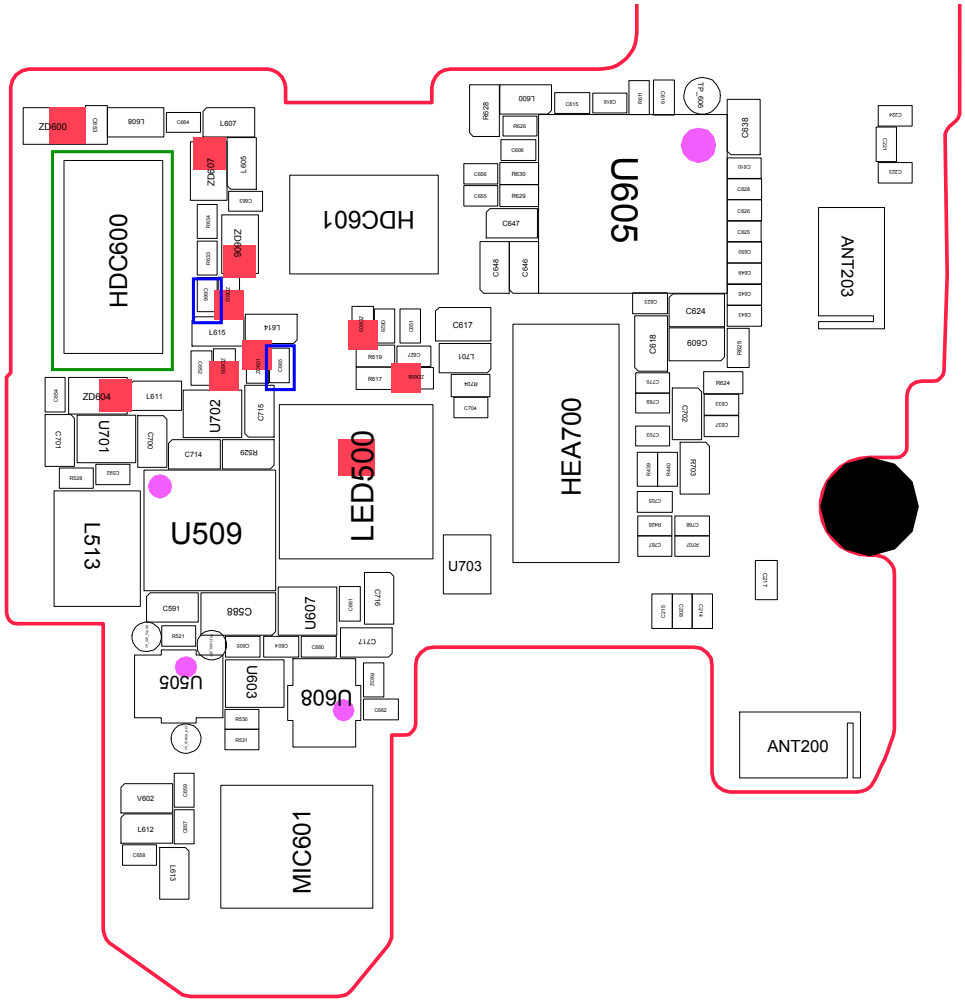




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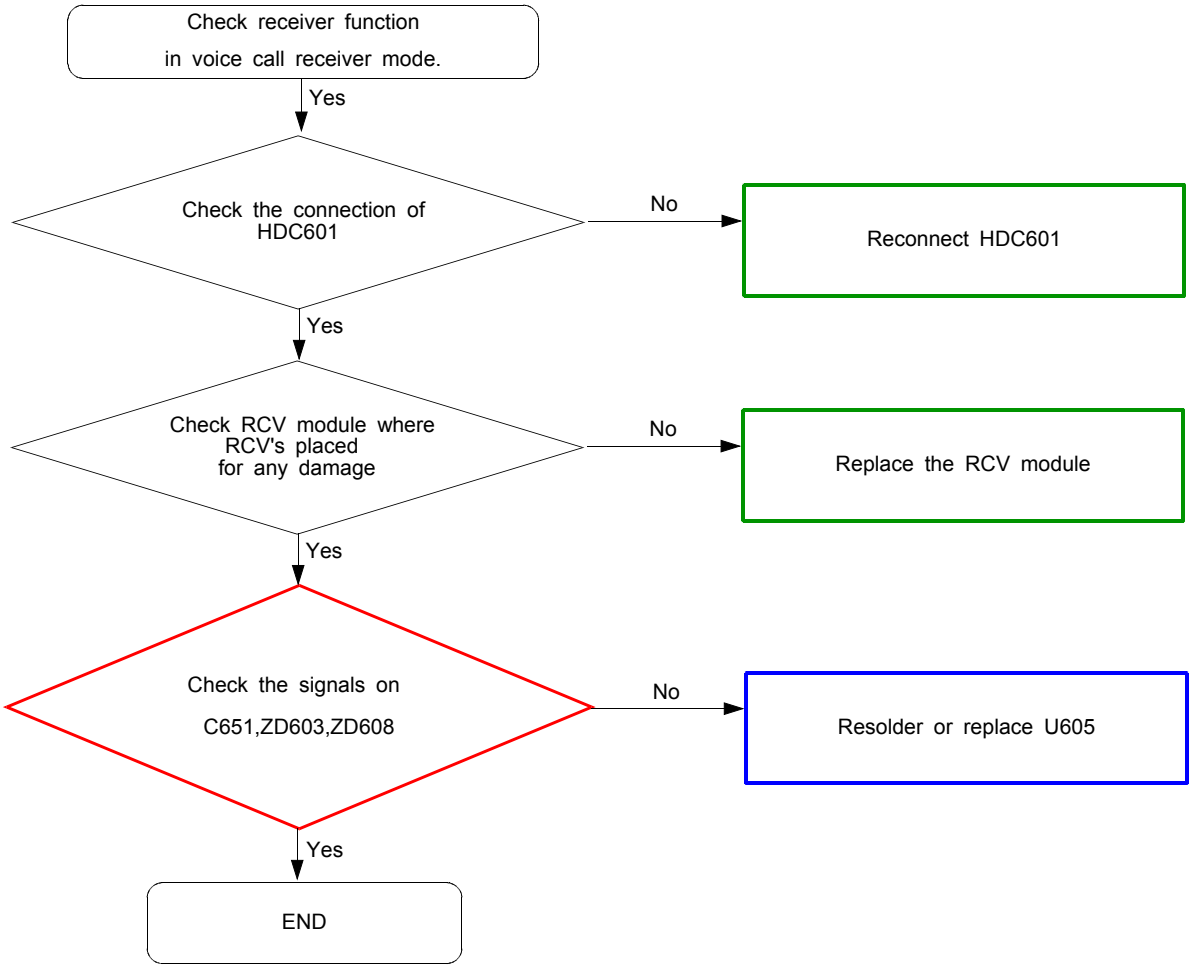
## 8-3-8. Receiver Part



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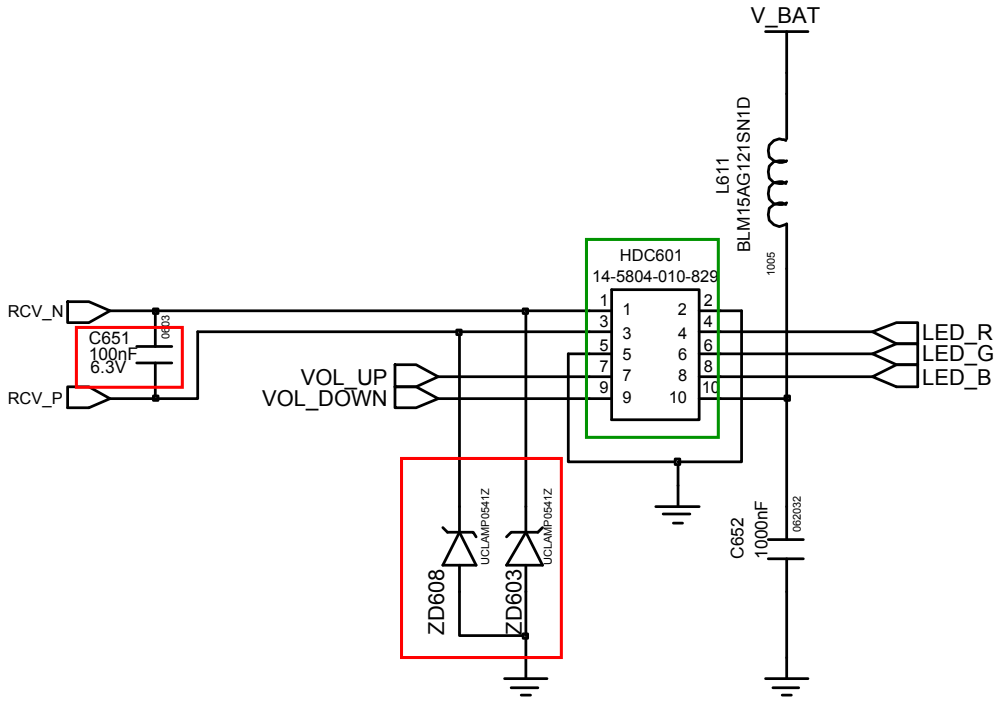


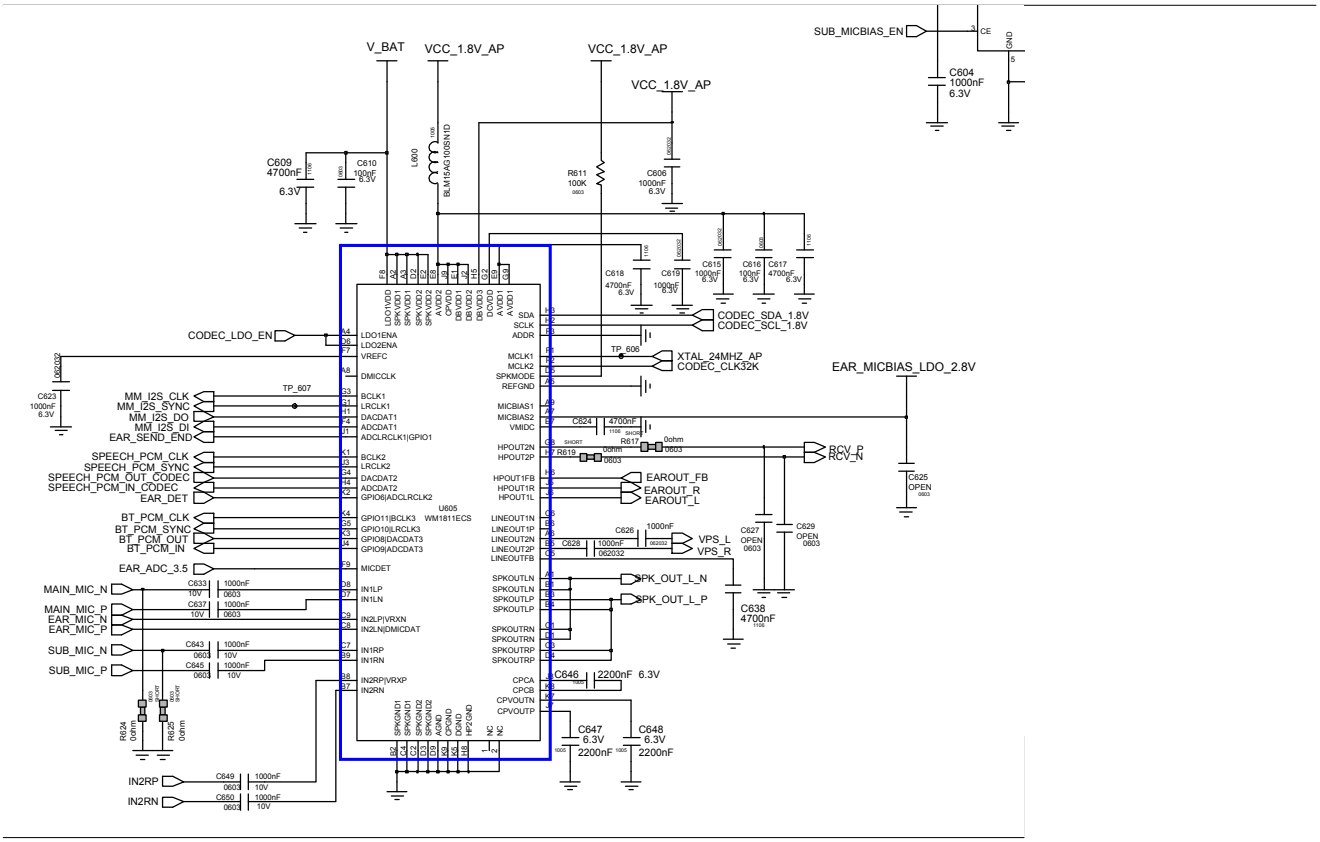




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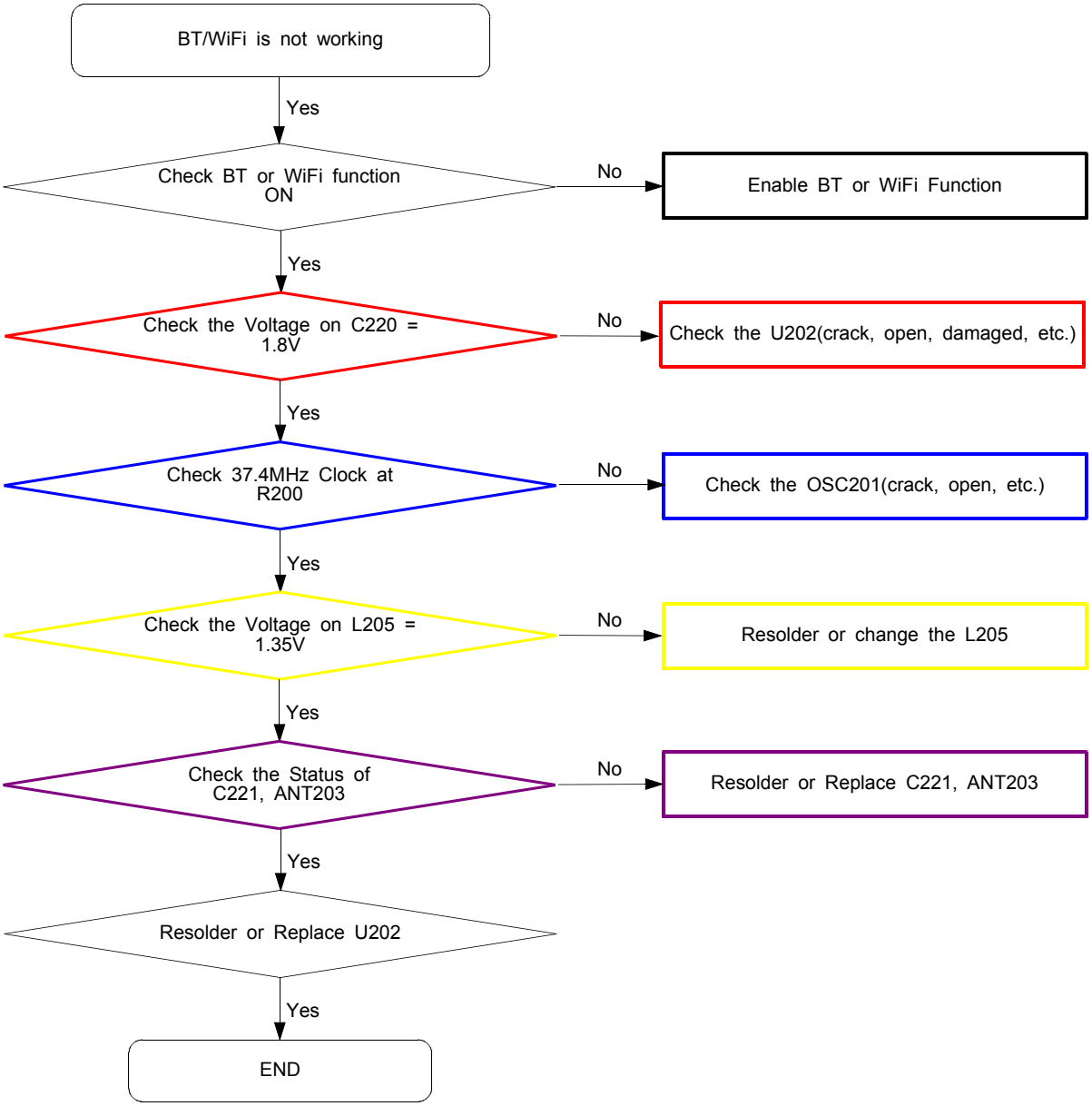
## 8-3-9. BT/WIFI



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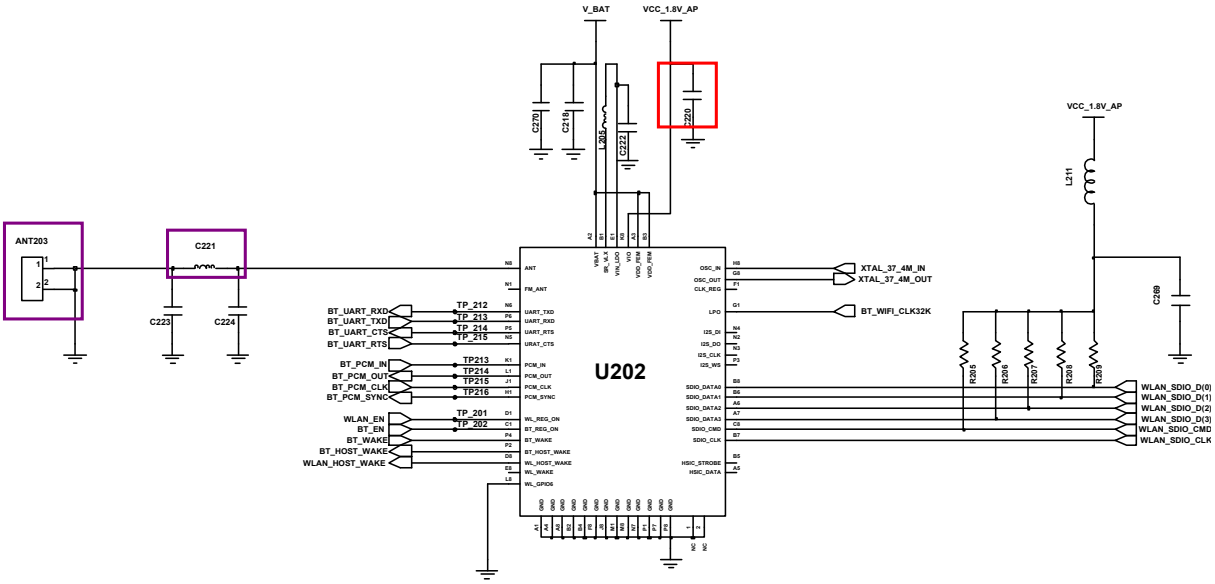


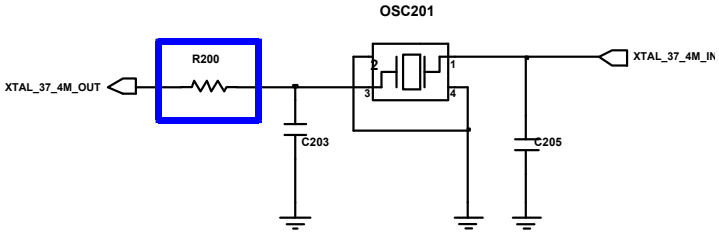




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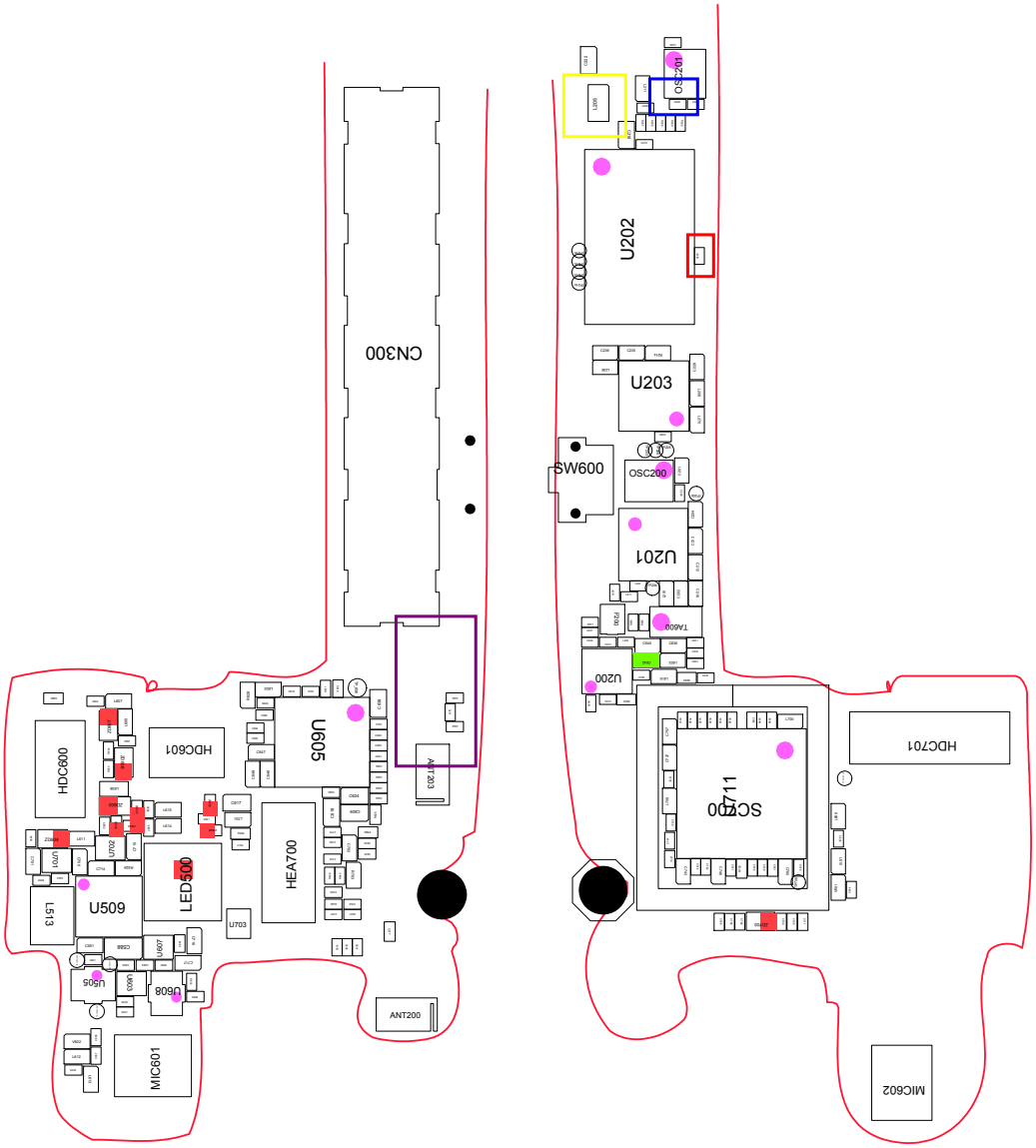




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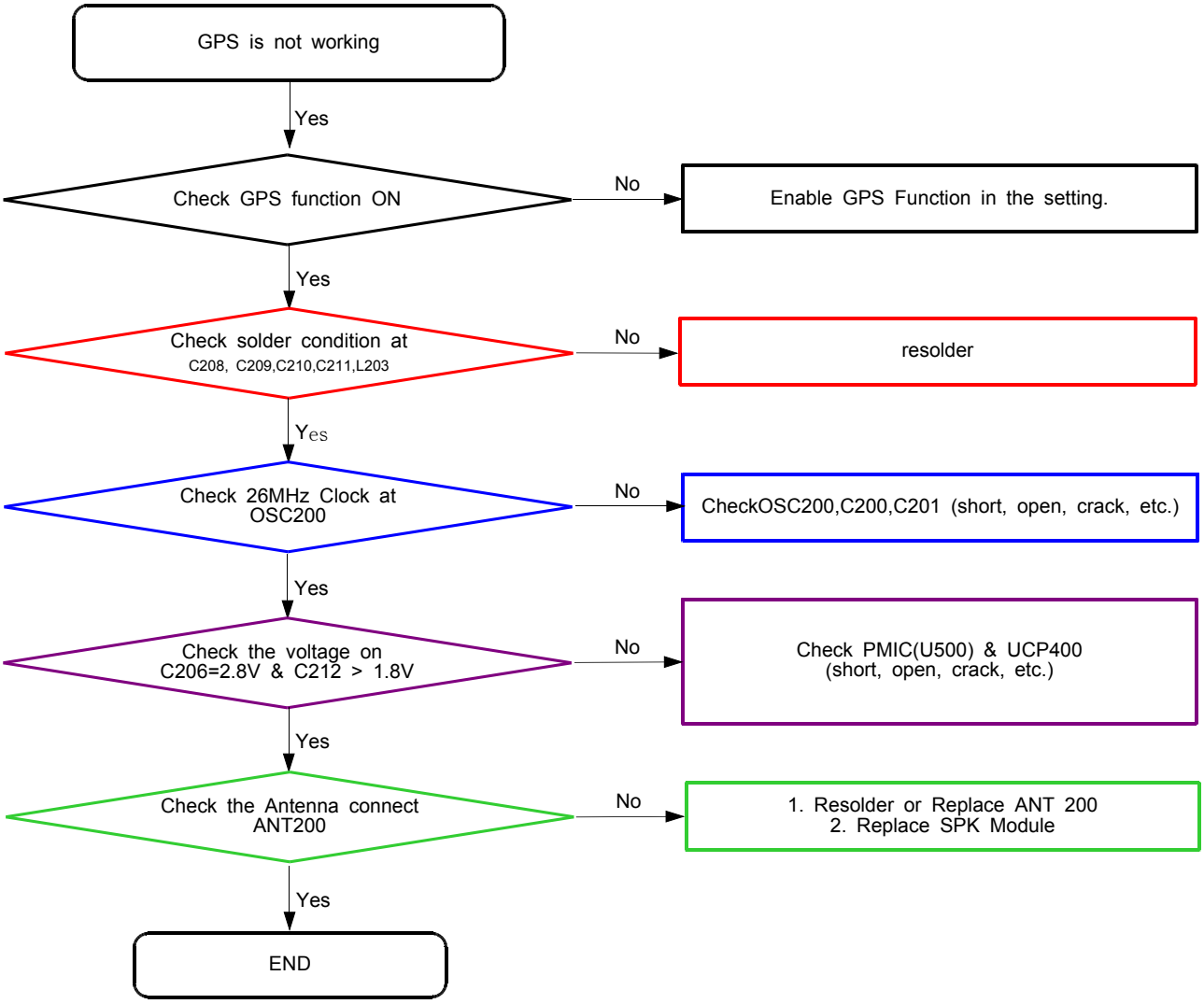
## 8-3-10. GPS



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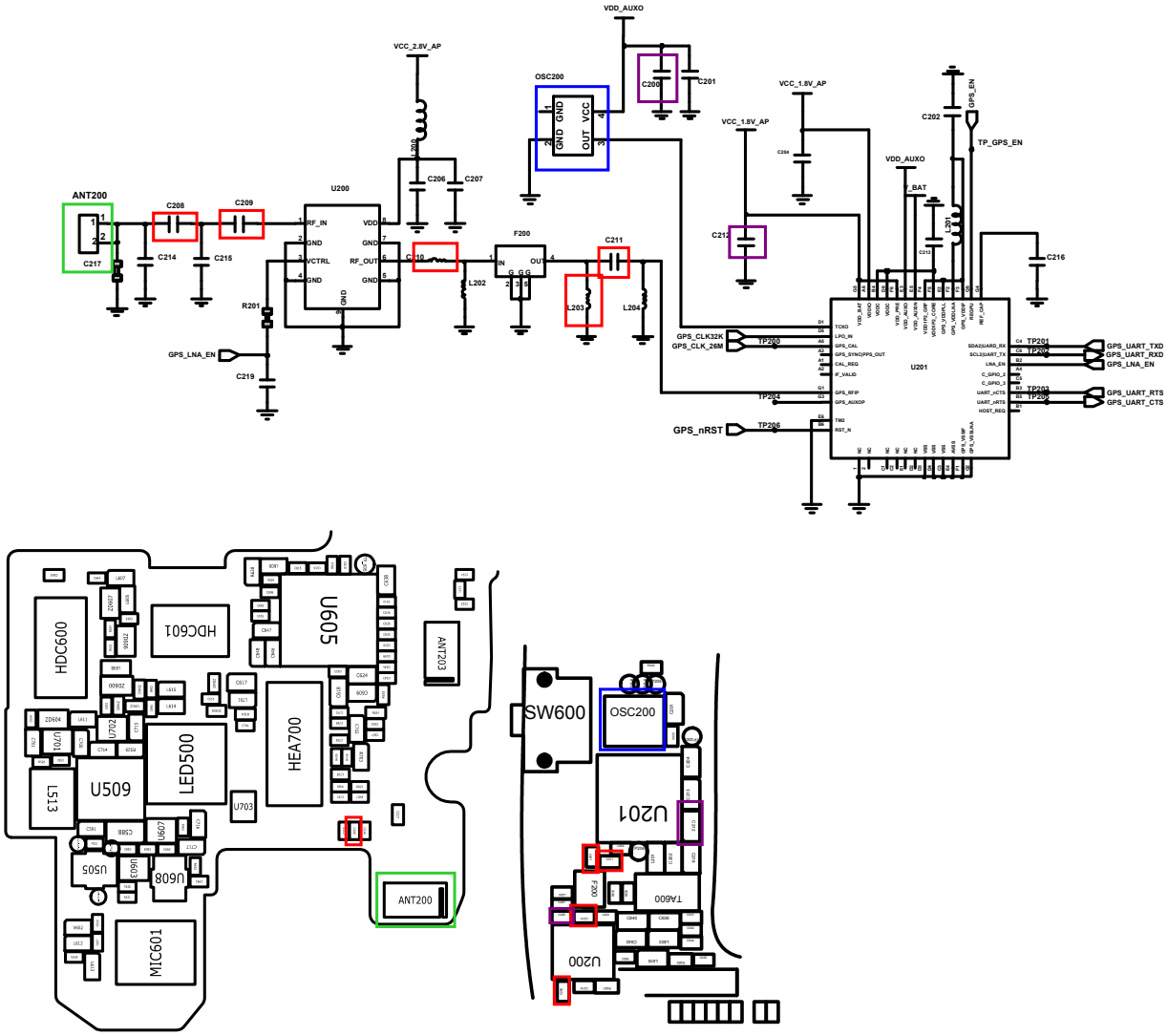




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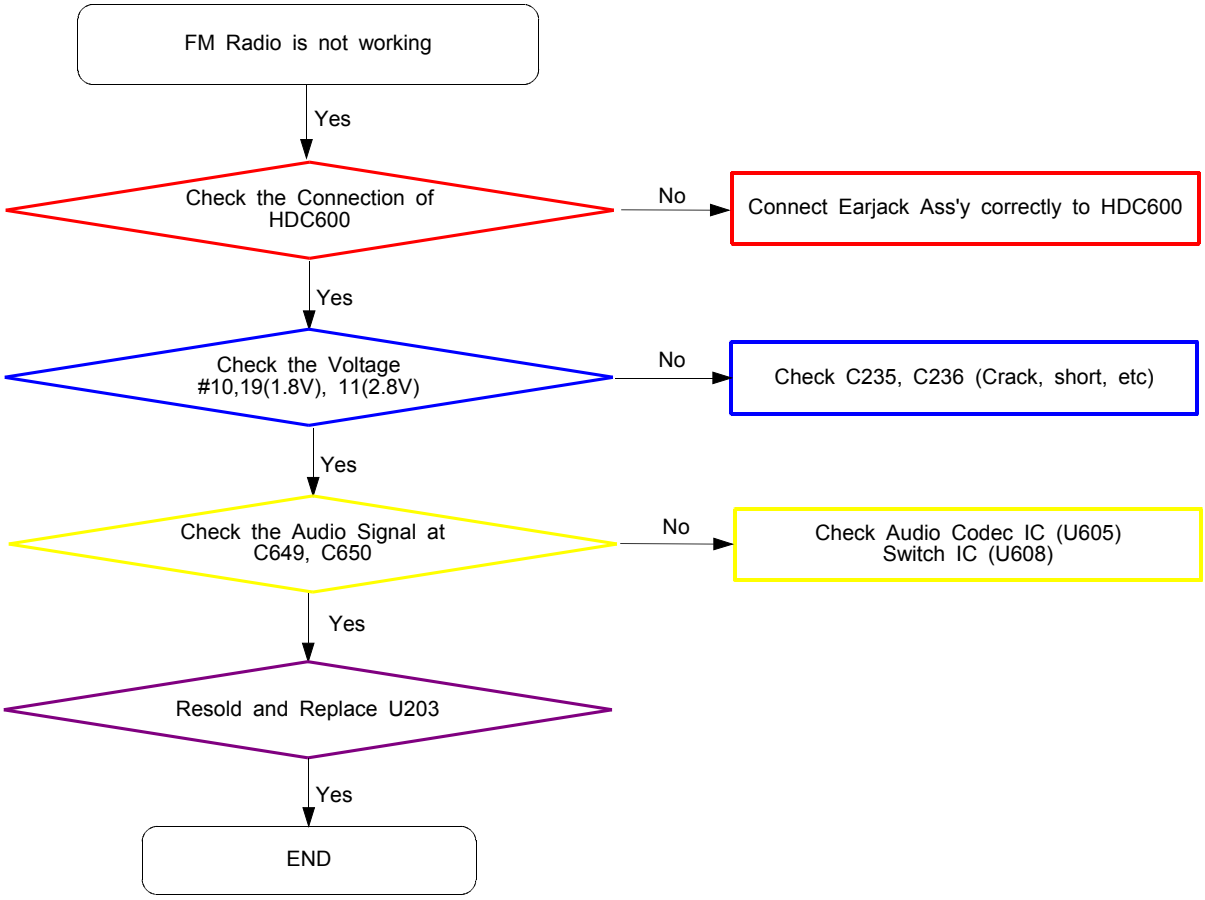
## 8-3-11. FM RADIO



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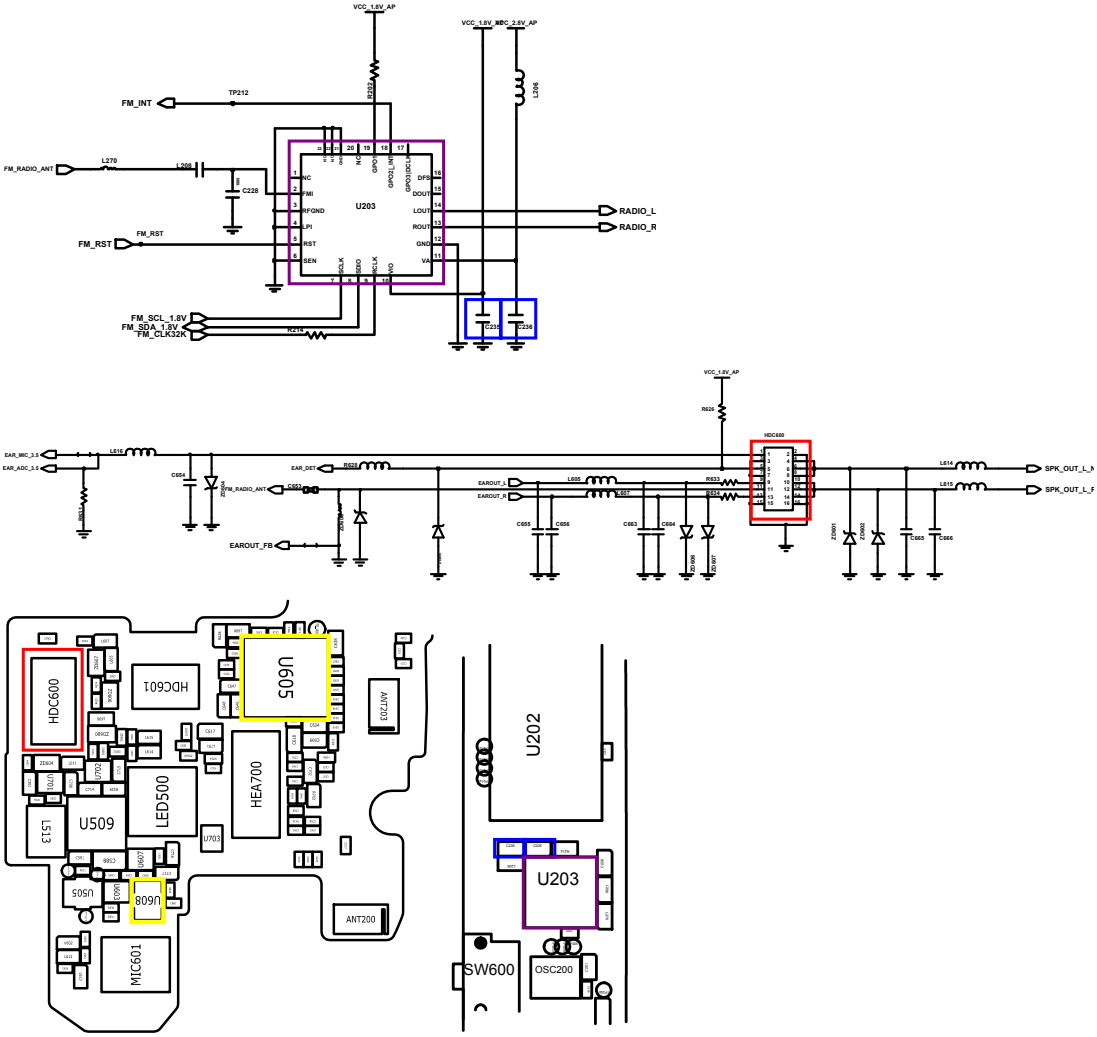




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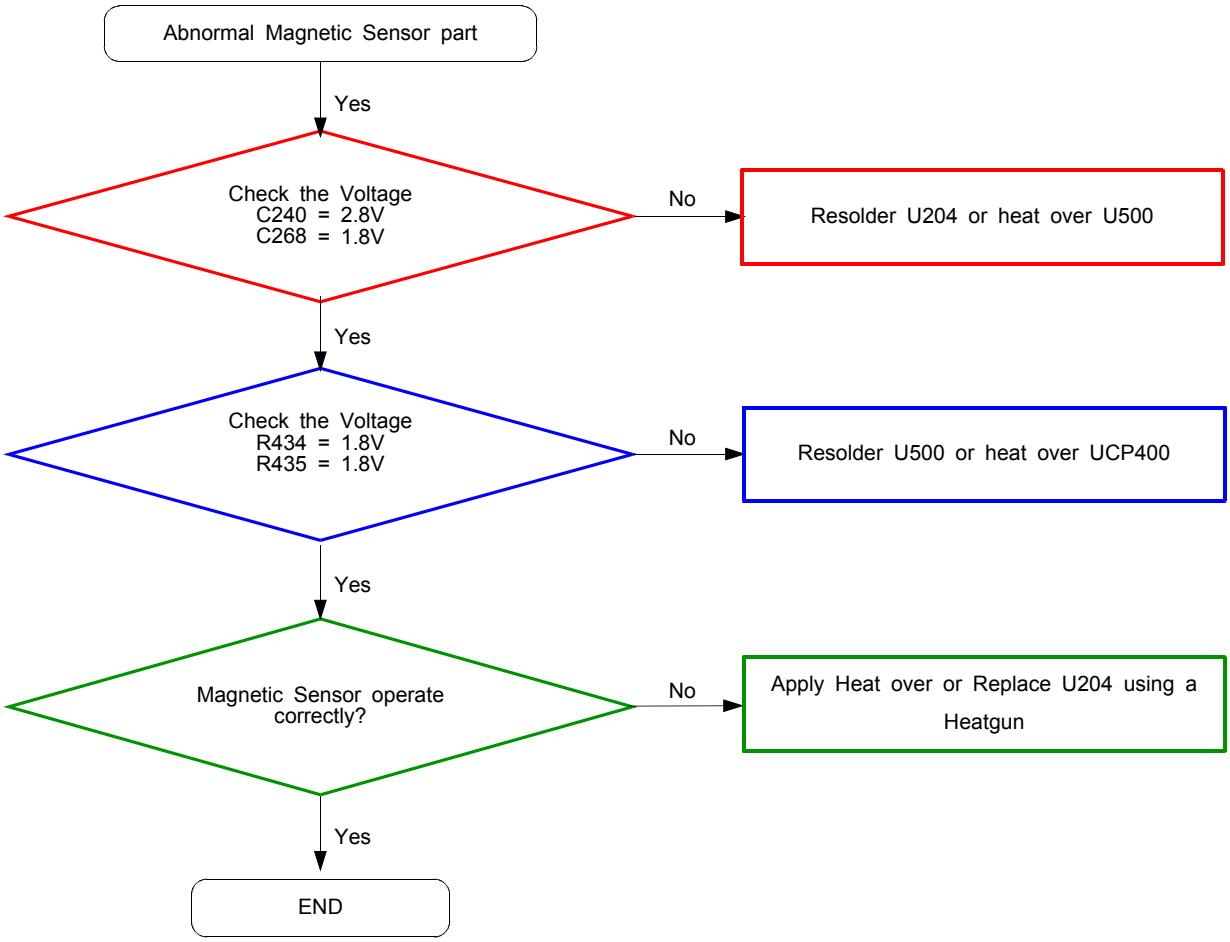
## 8-3-12.Sensor Part

### 1. Magnetic Sensor



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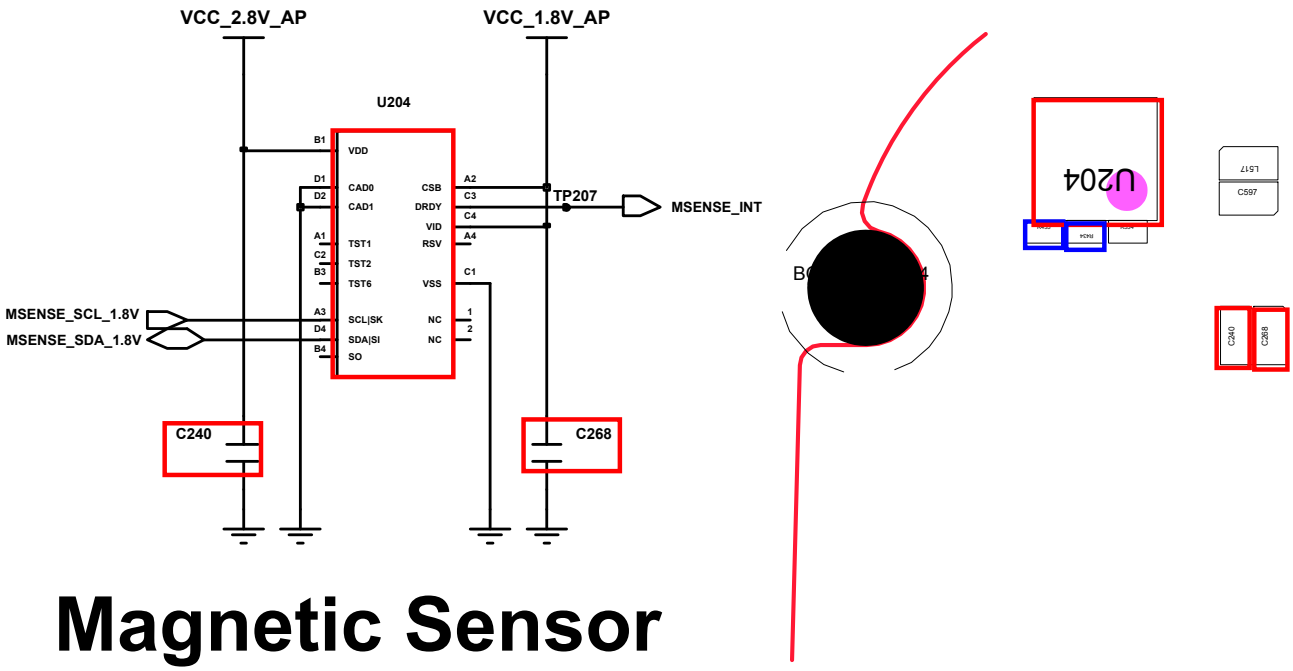
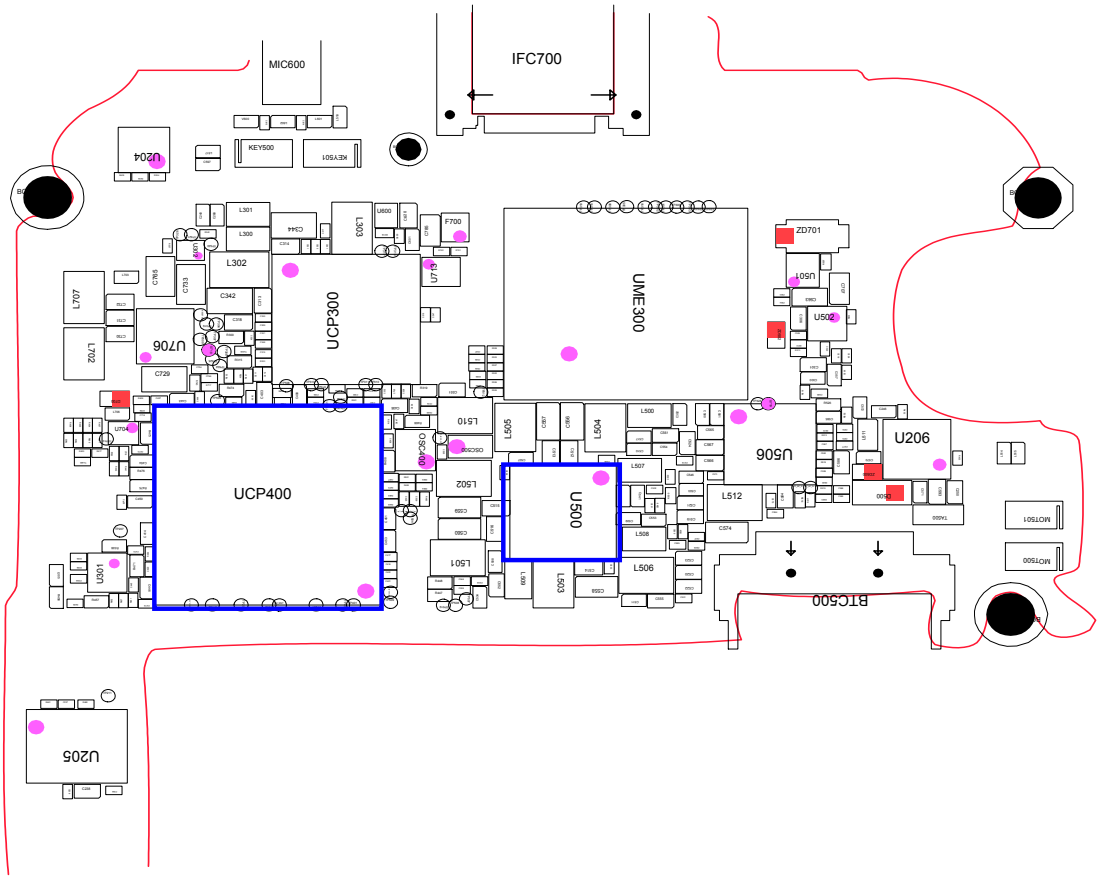



# Magnetic Sensor



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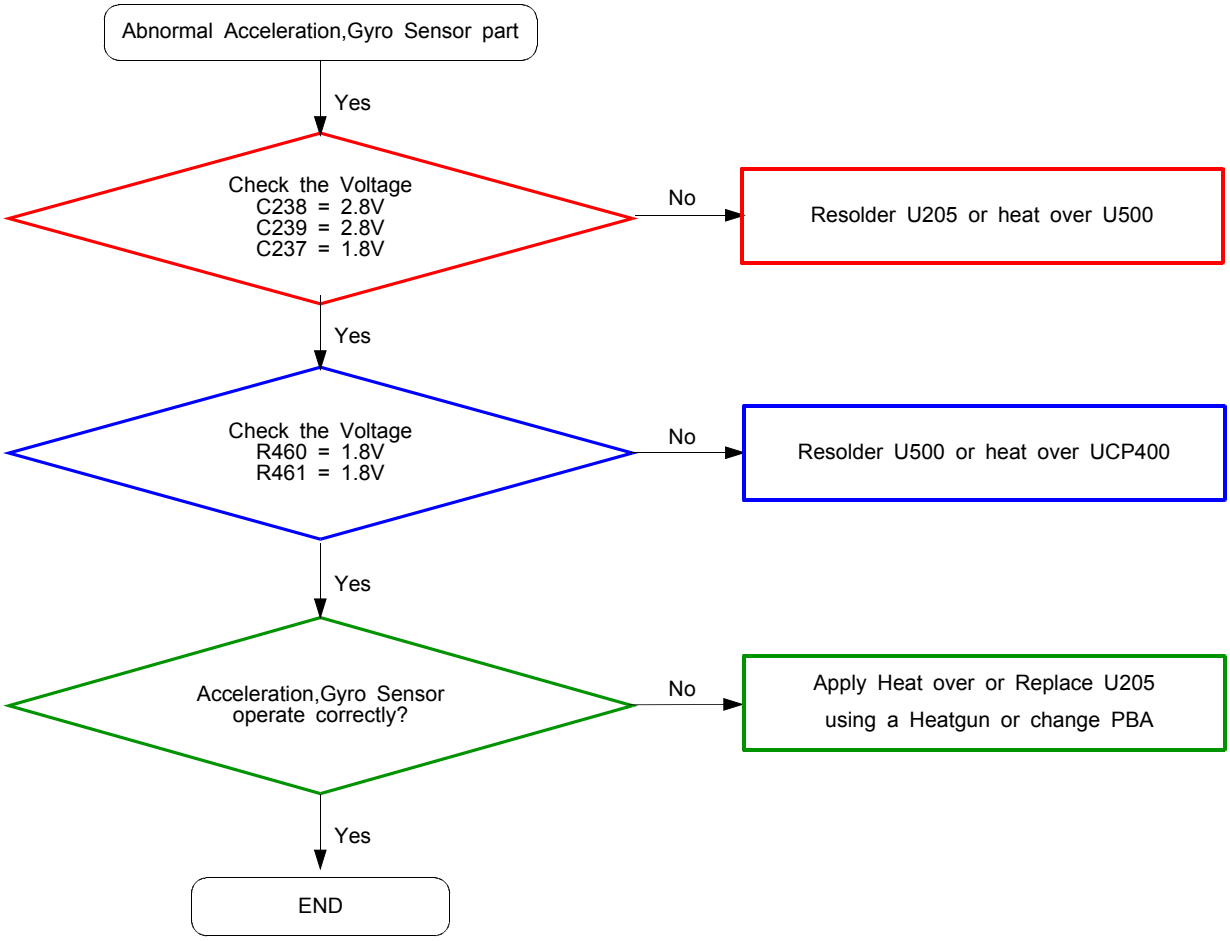
## 2. Acceleration , Gyro Sensor



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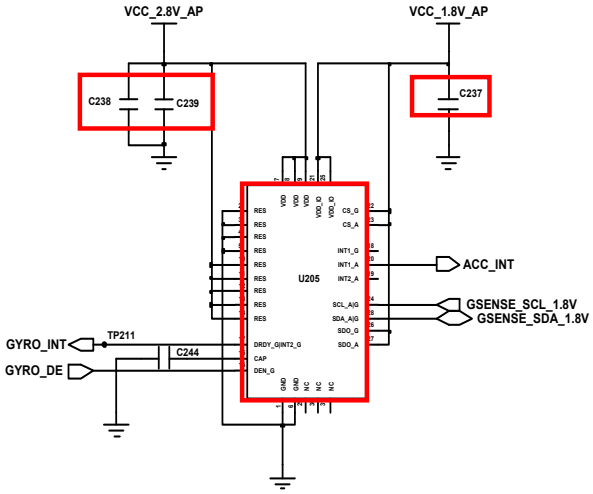
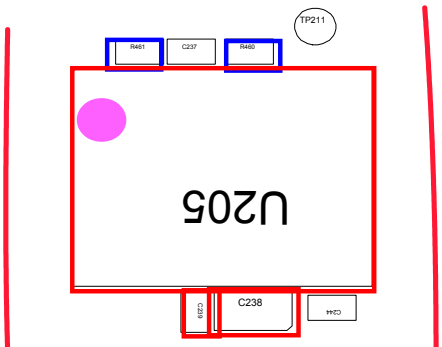
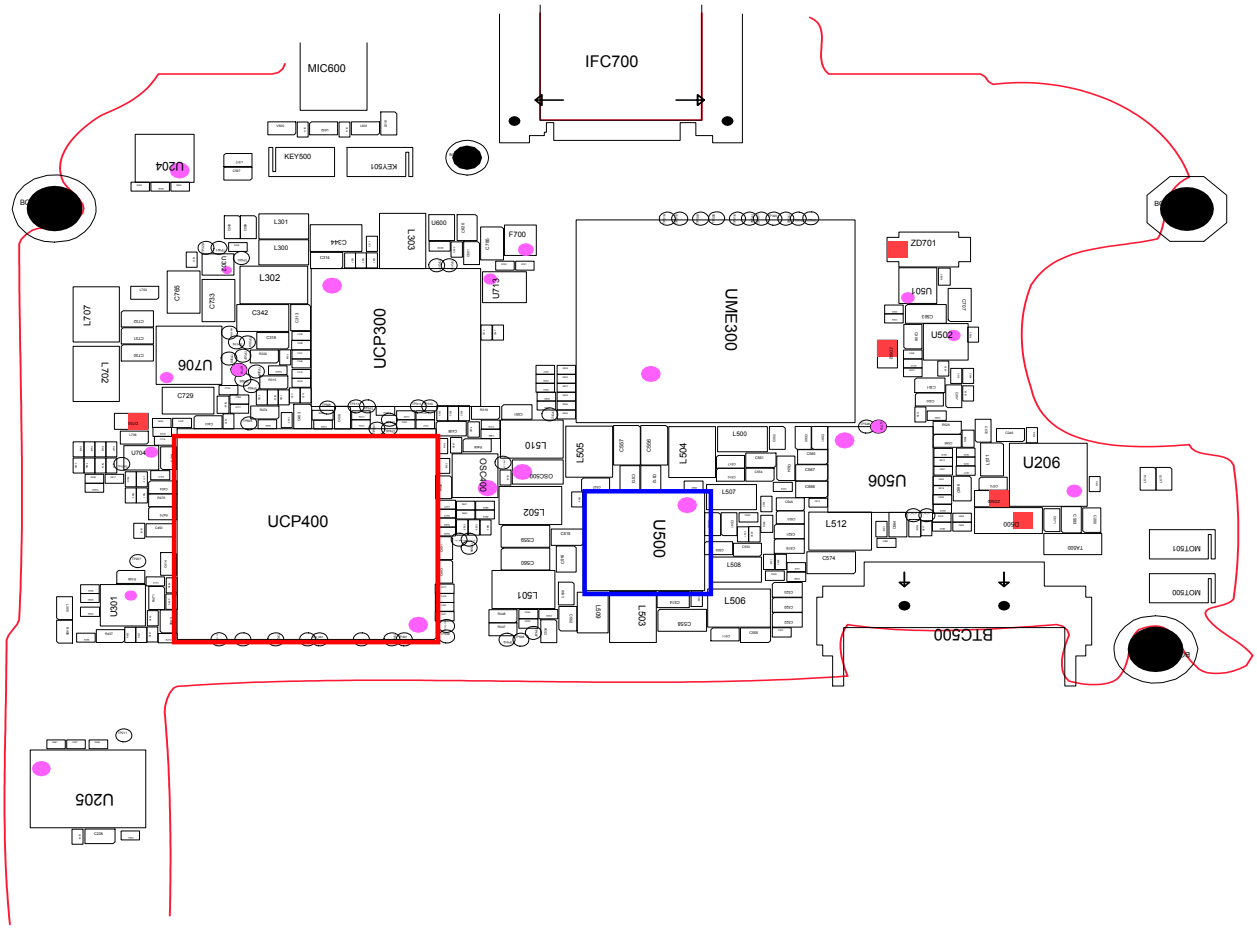



# 6 Axics Sensor (GYRO,ACCEL)



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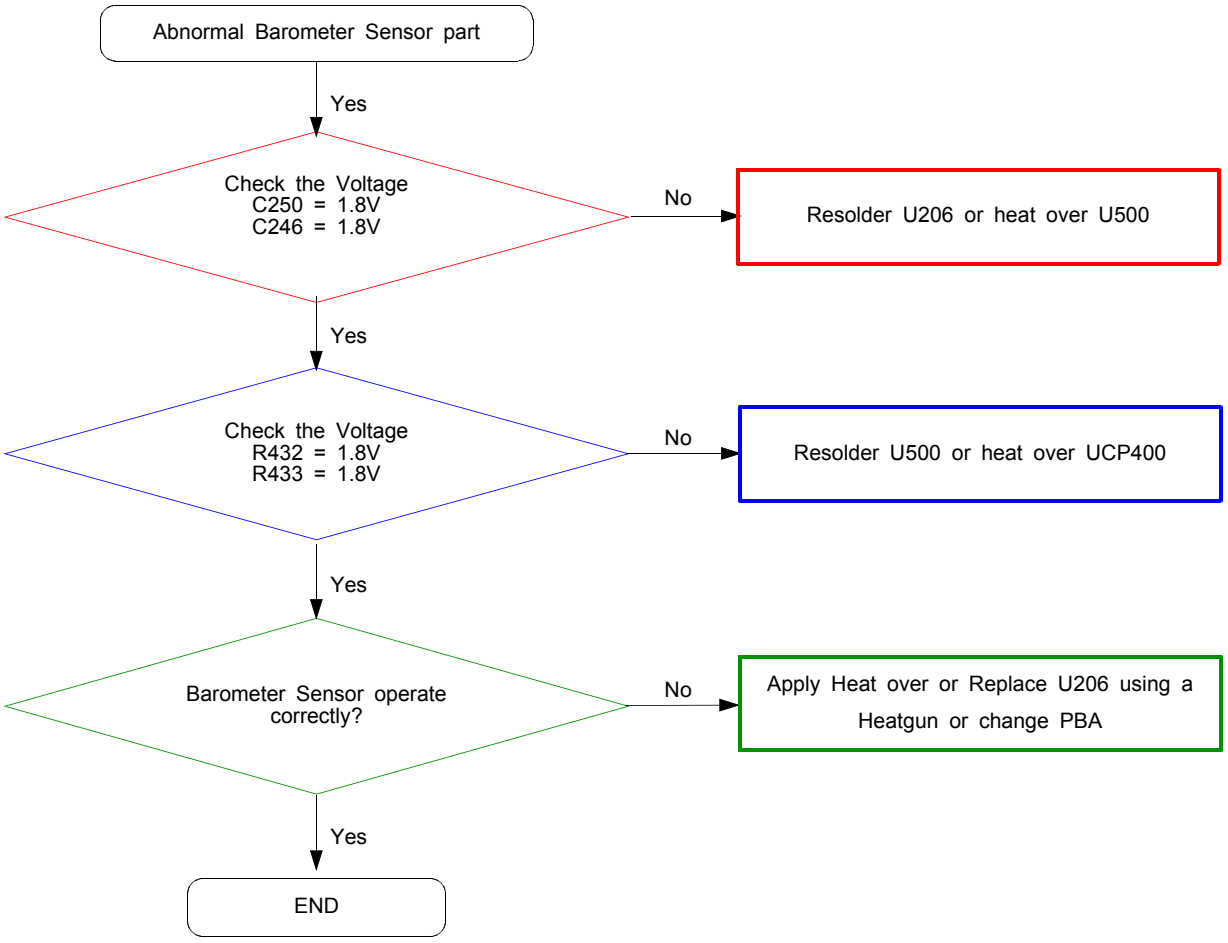
## 3. Barometer Sensor



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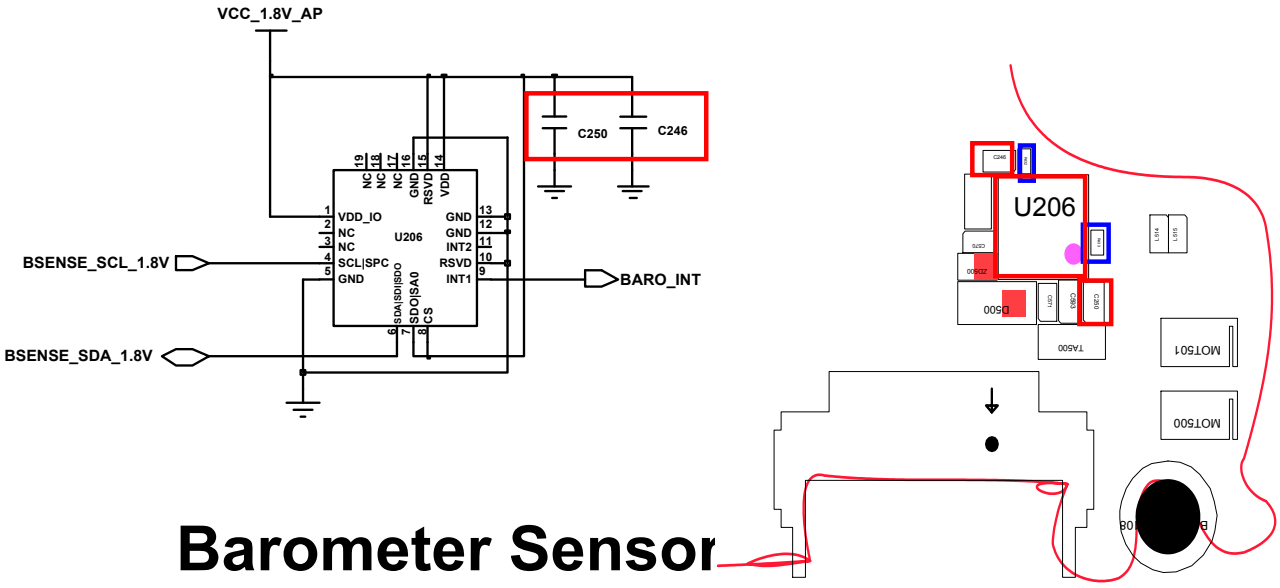
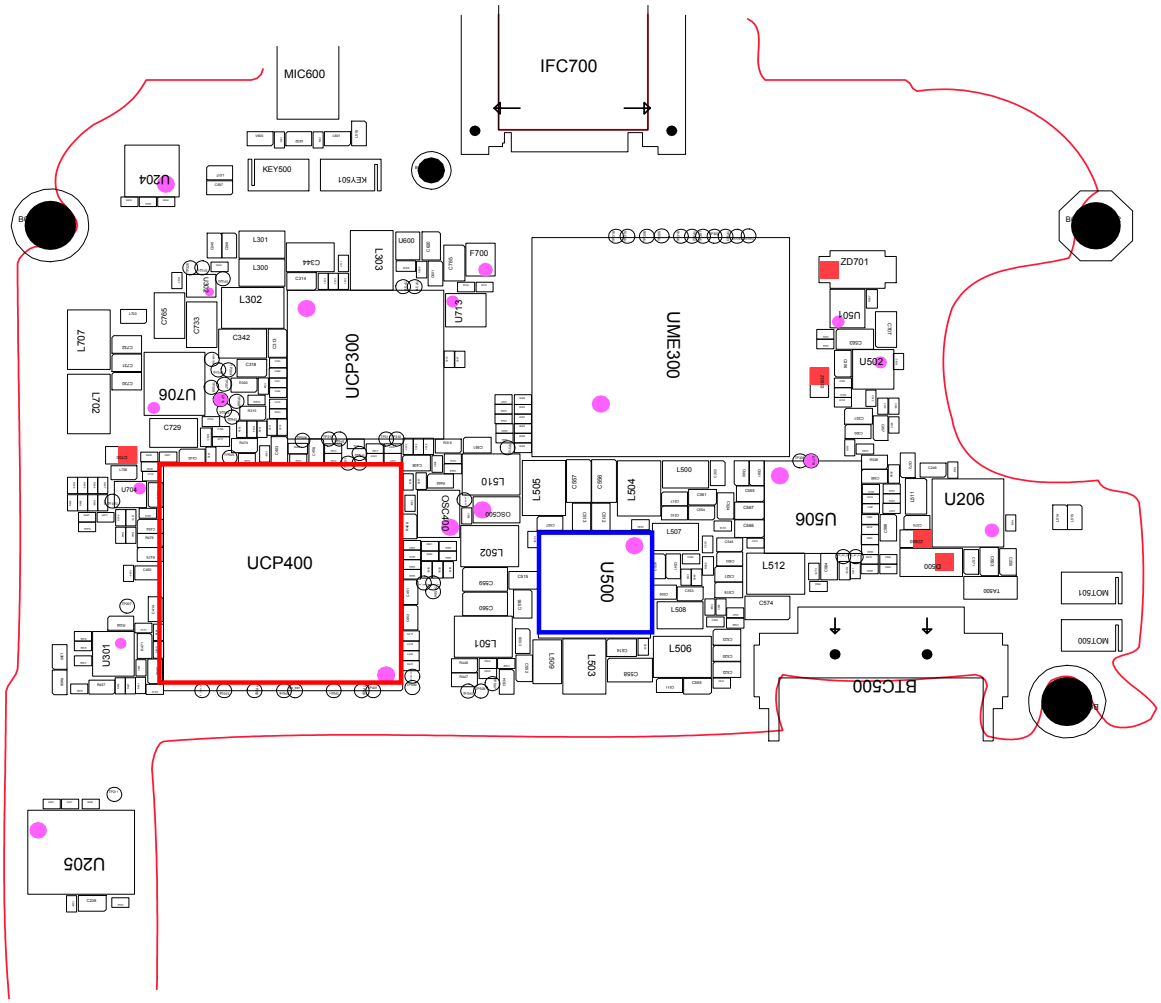



# Barometer Sensor



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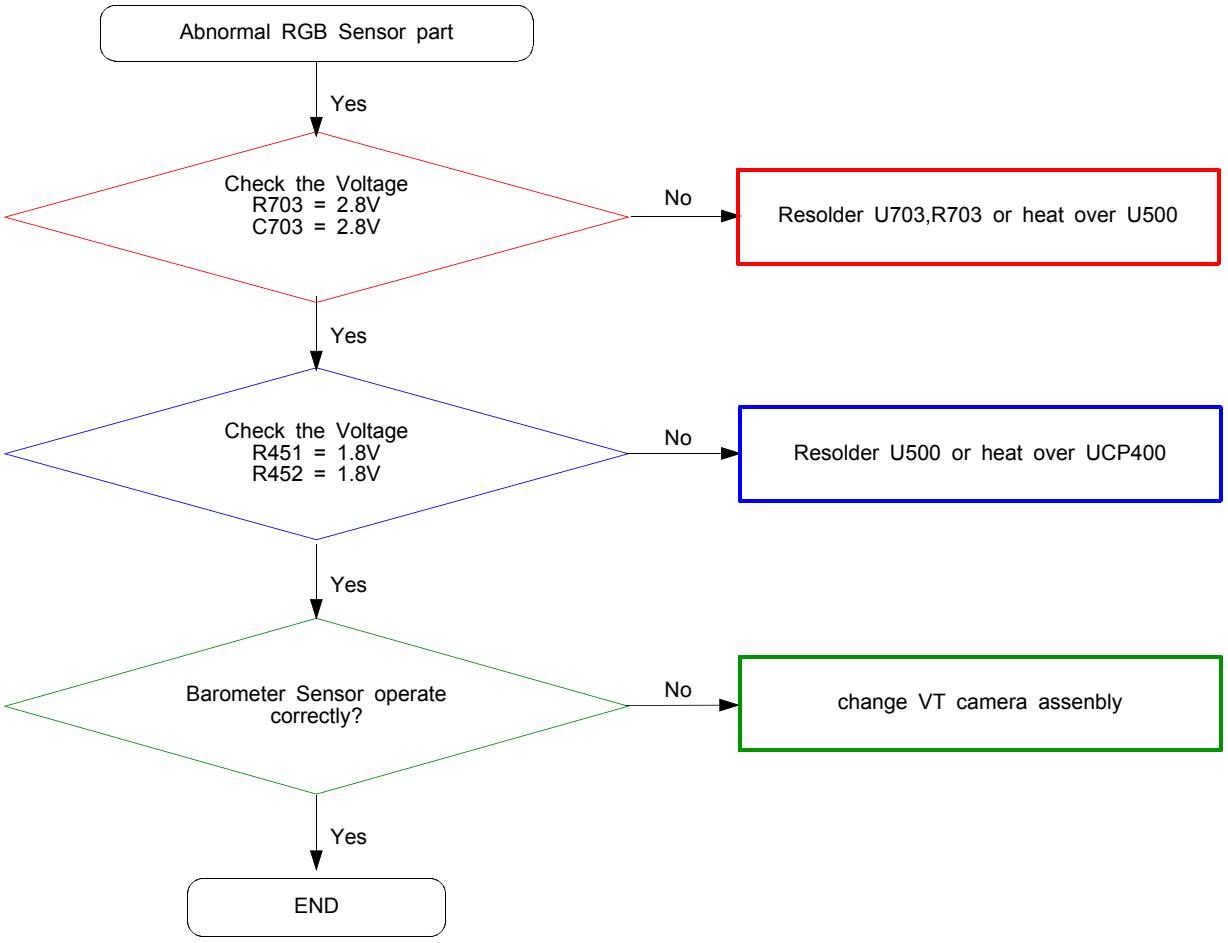
# 4. RGB Sensor



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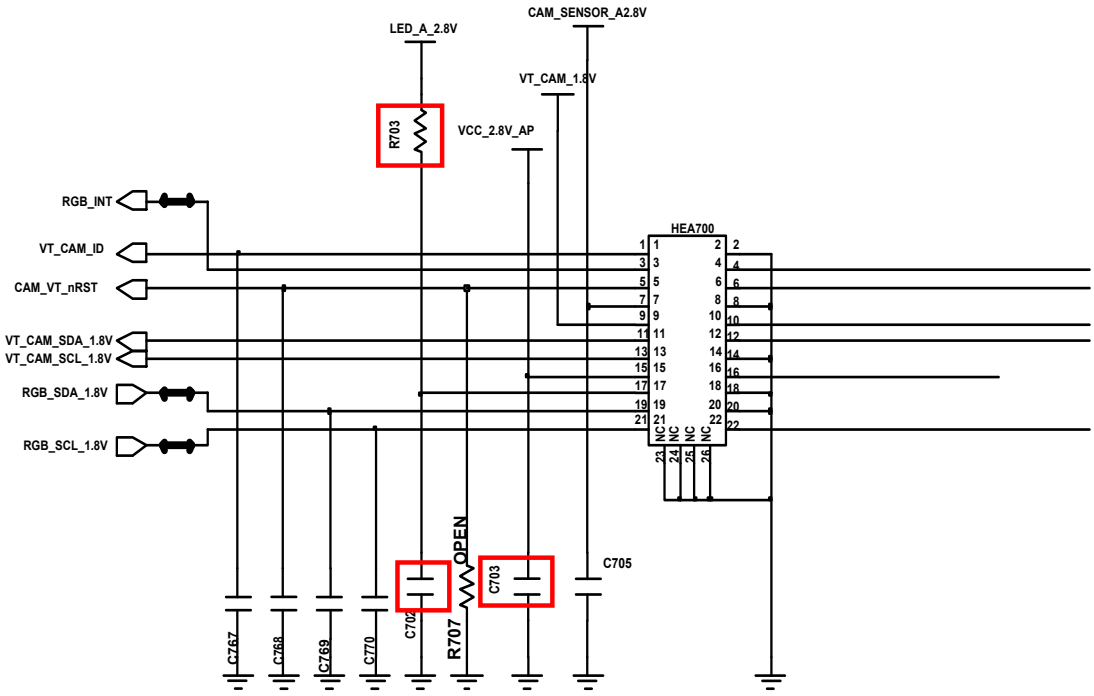


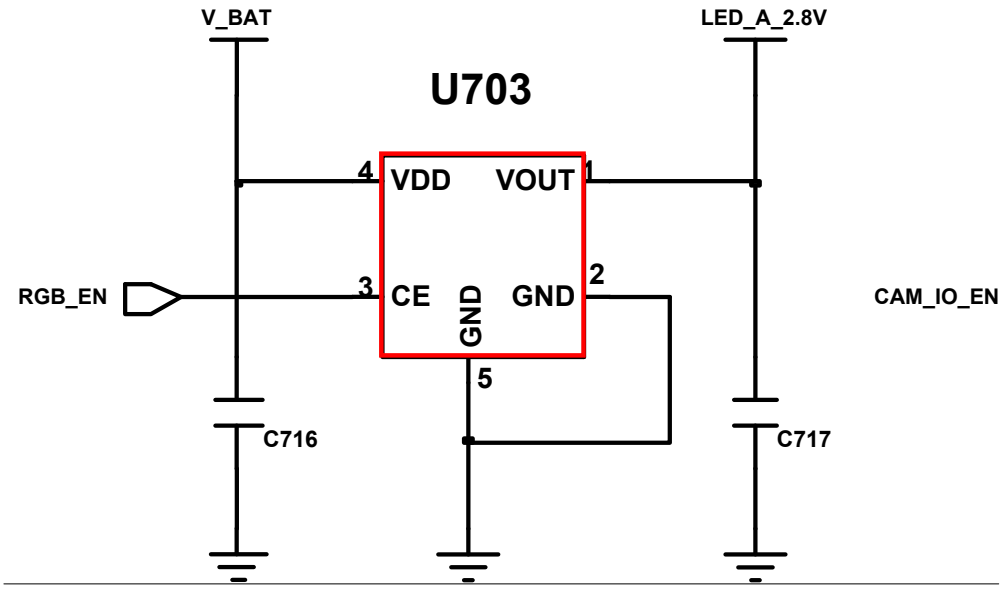




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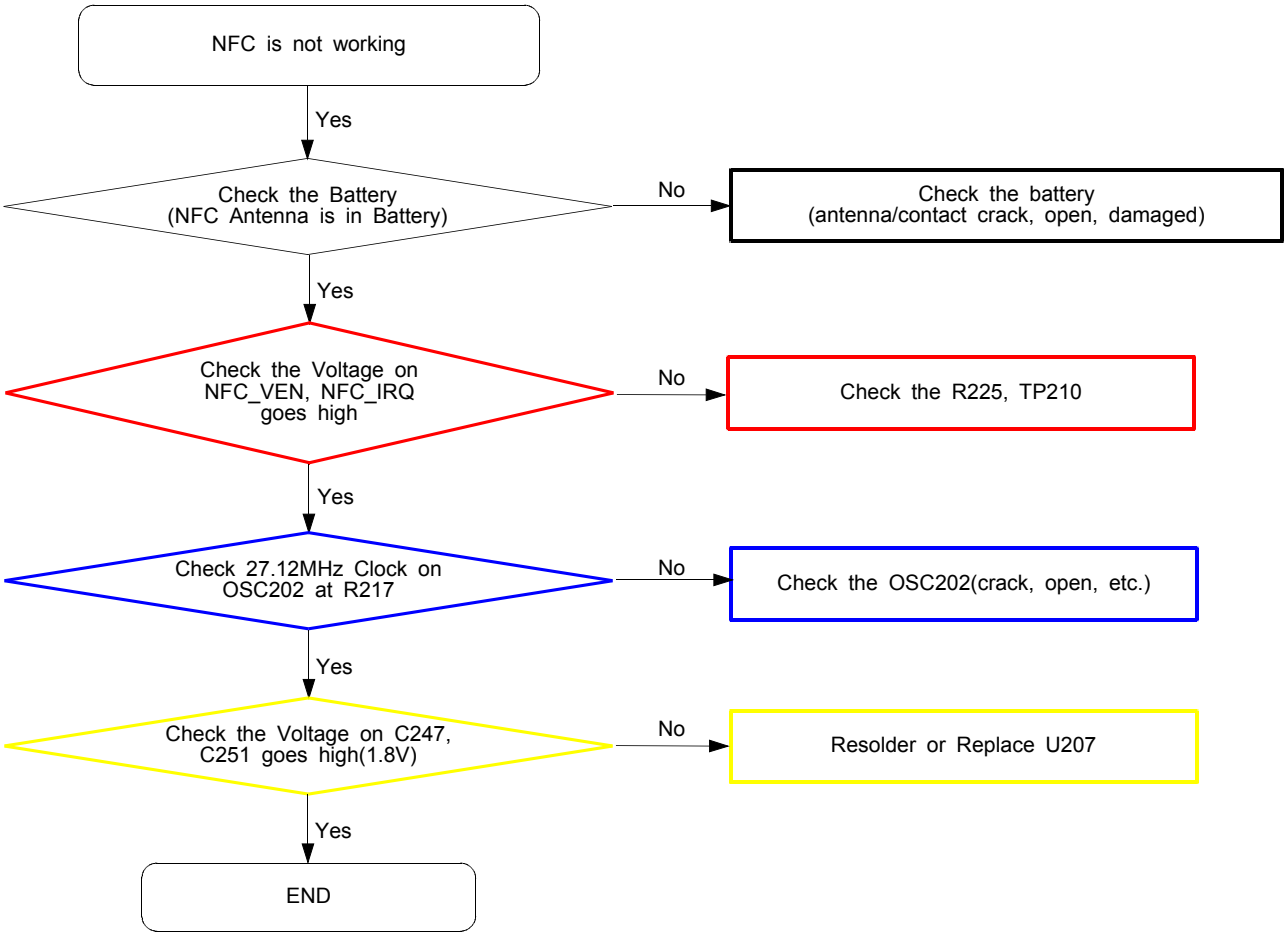
## 8-3-13. NFC



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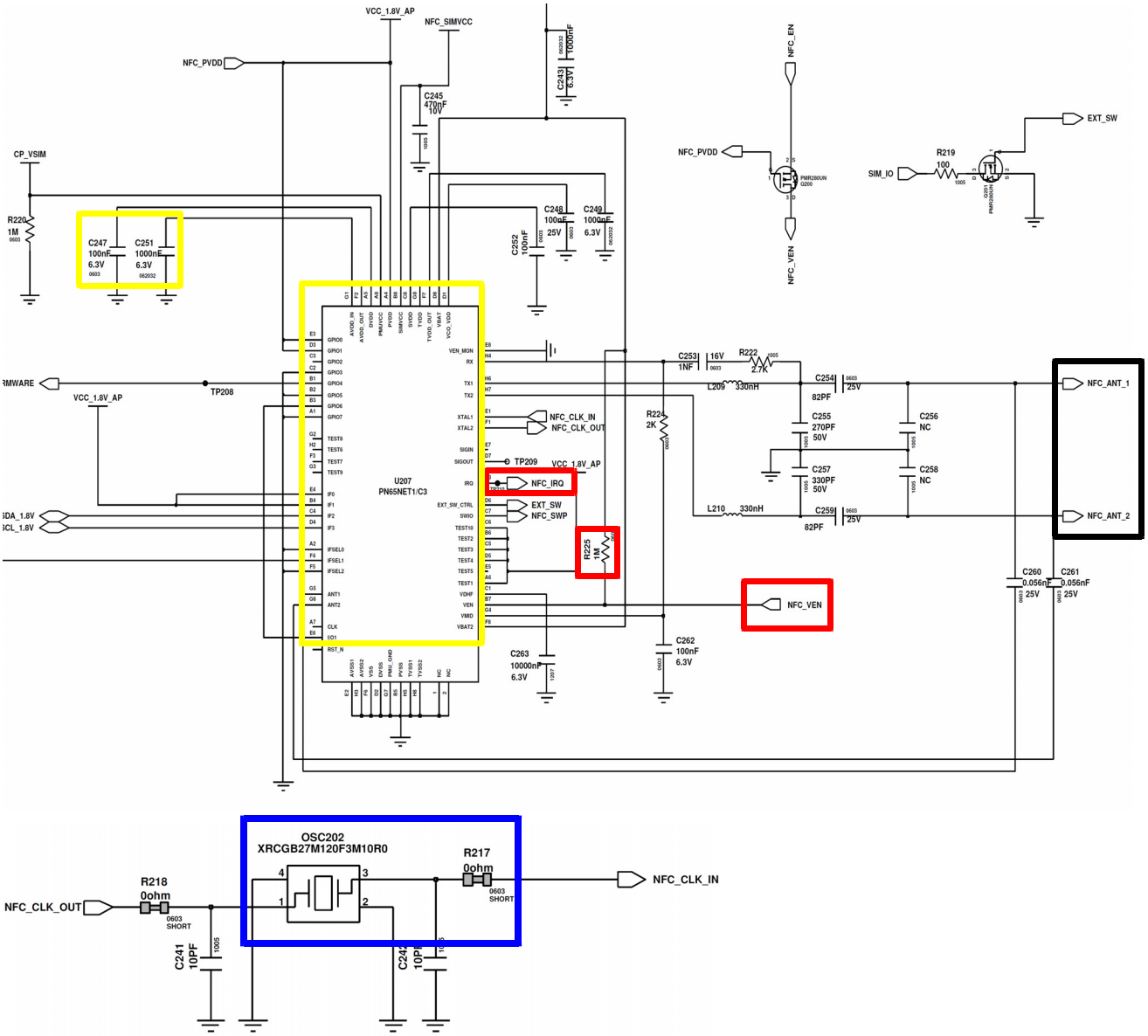







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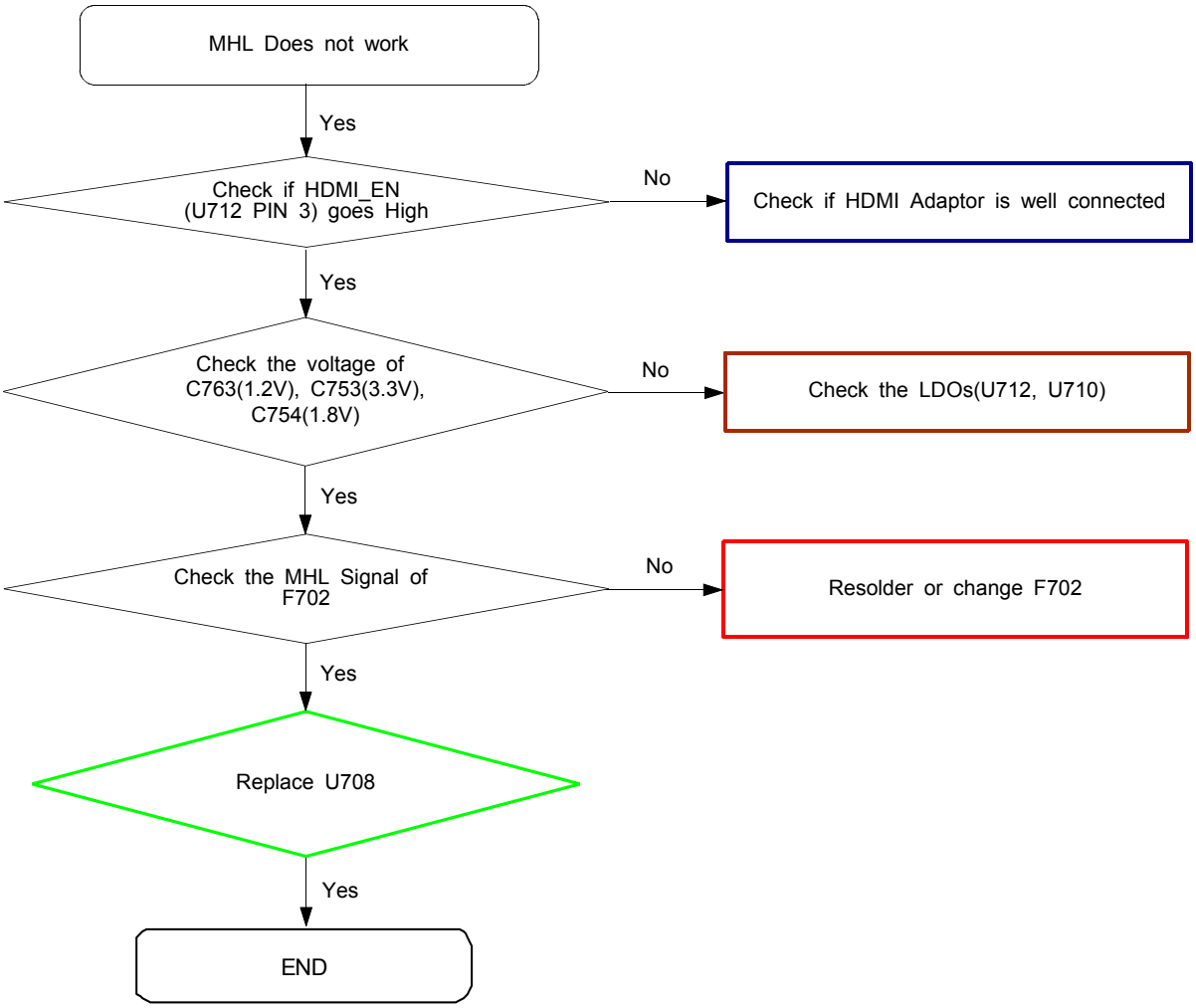
## 8-3-14. MHL



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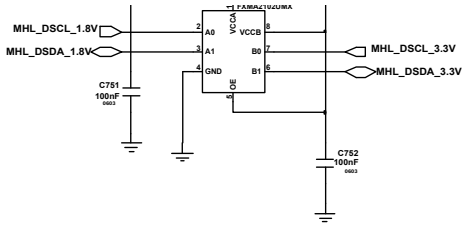


**OMMON_FILTER**
**(Near I/F CON.)**

# MHL PART



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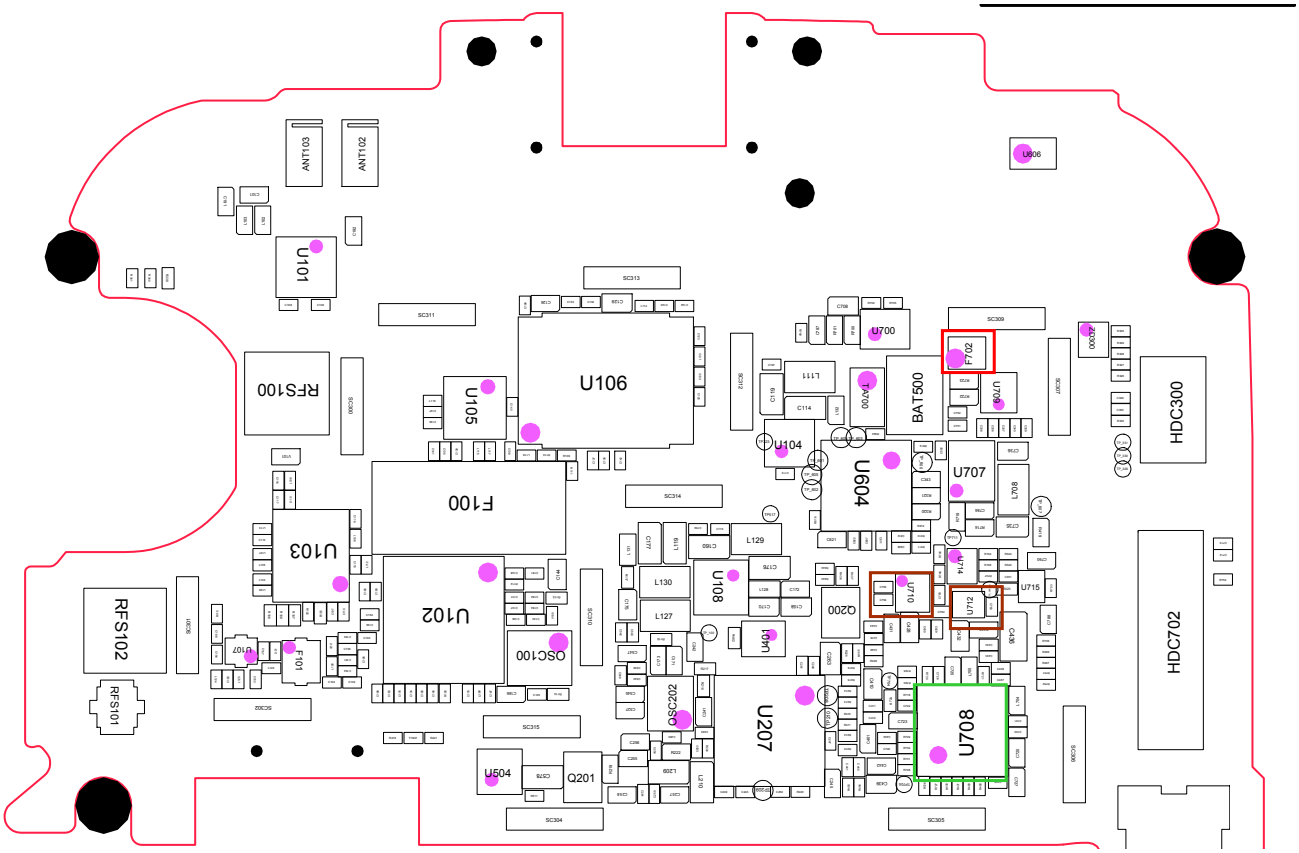




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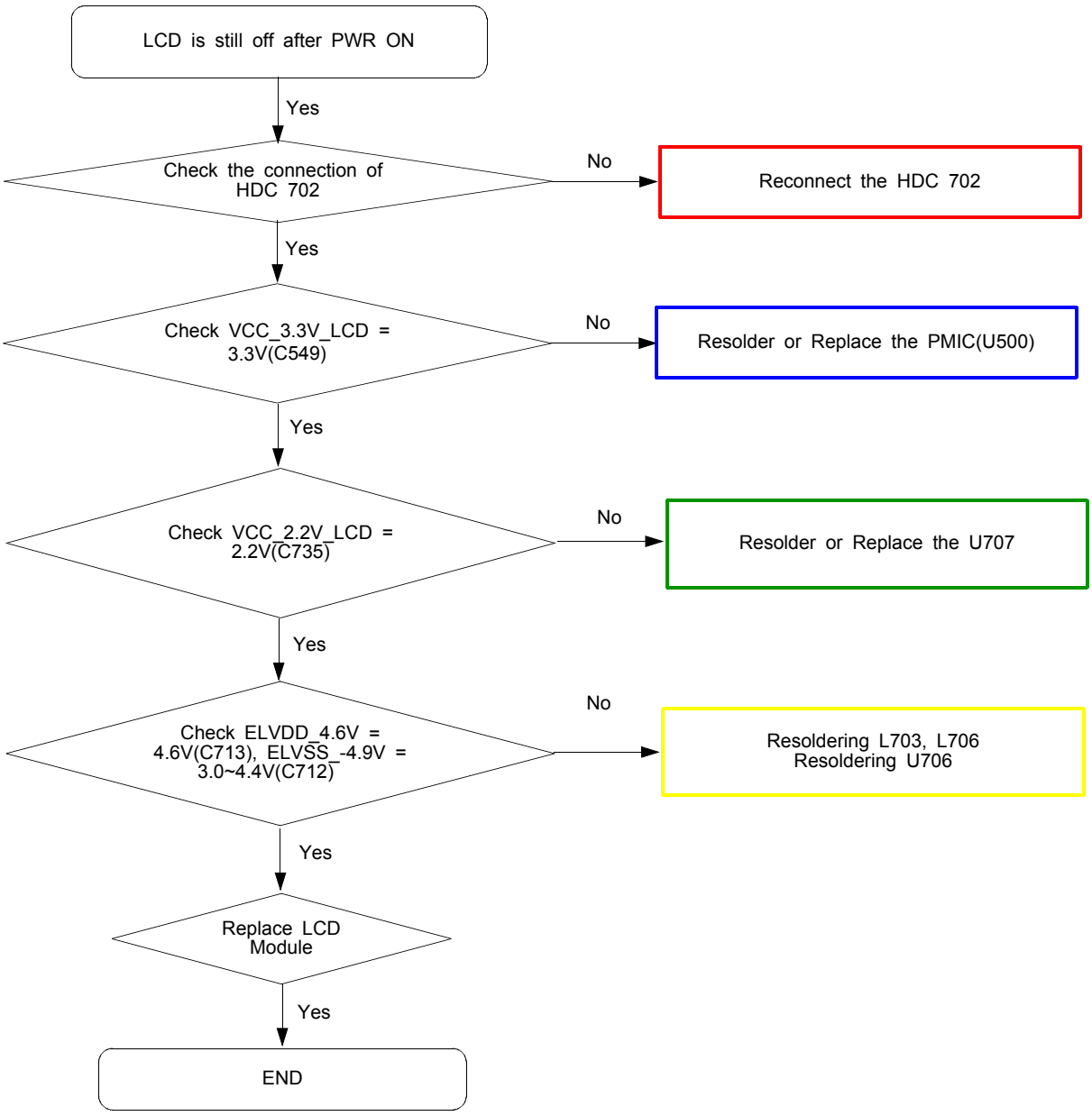
## 8-3-15. LCD



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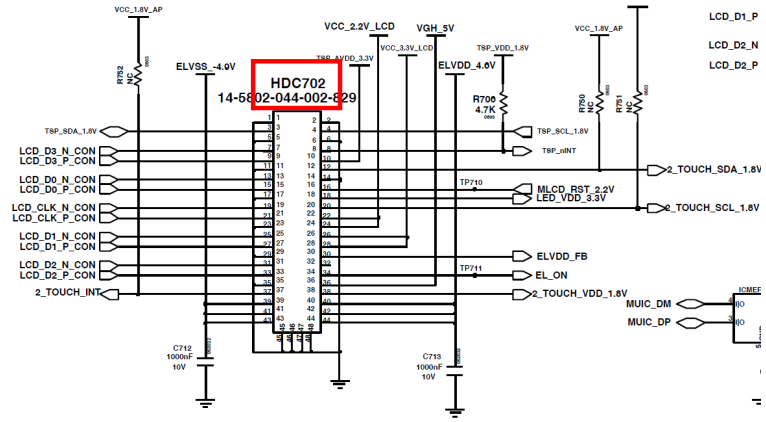


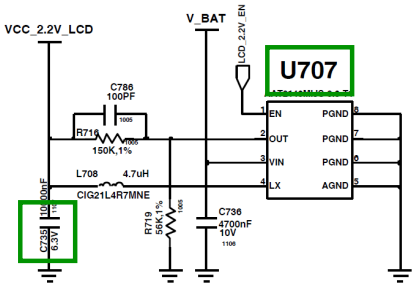


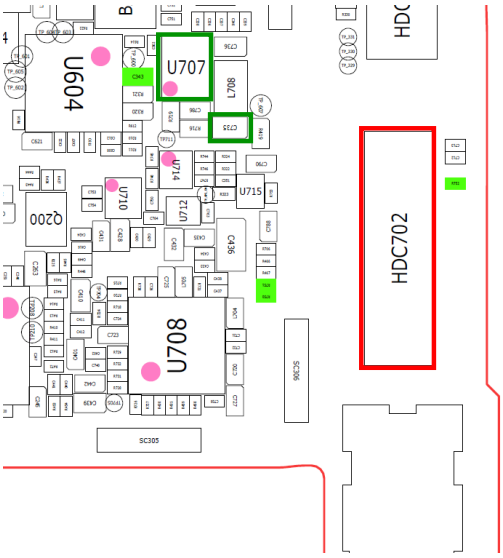


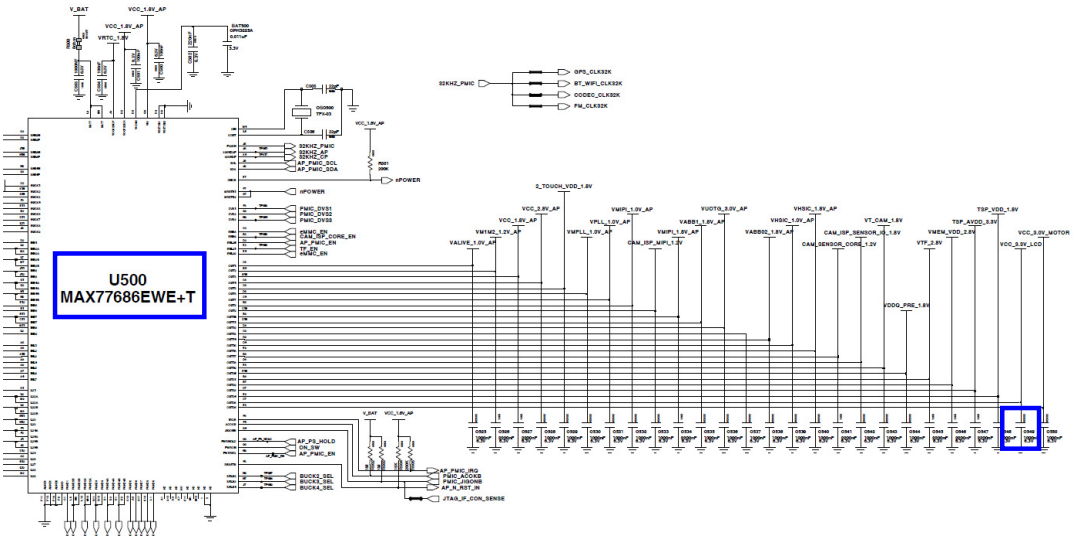




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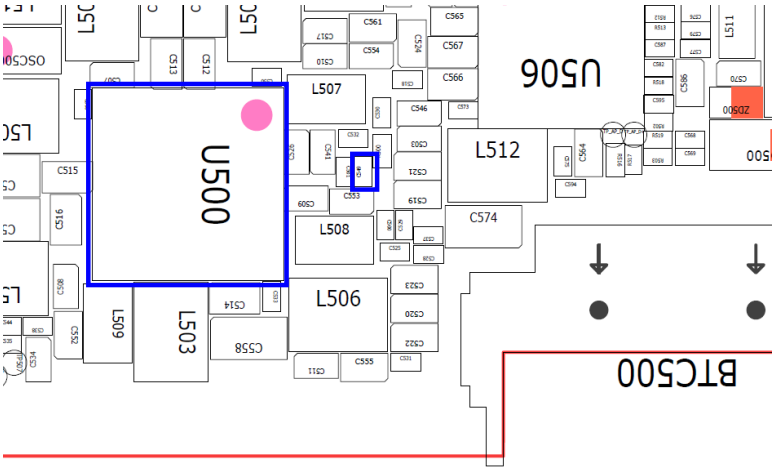


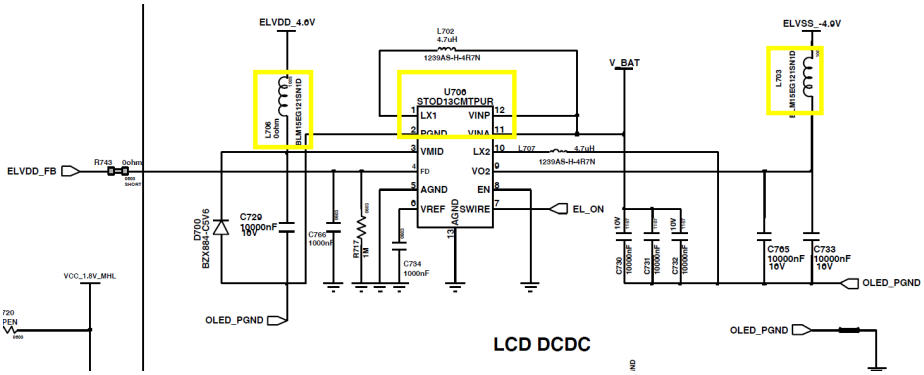


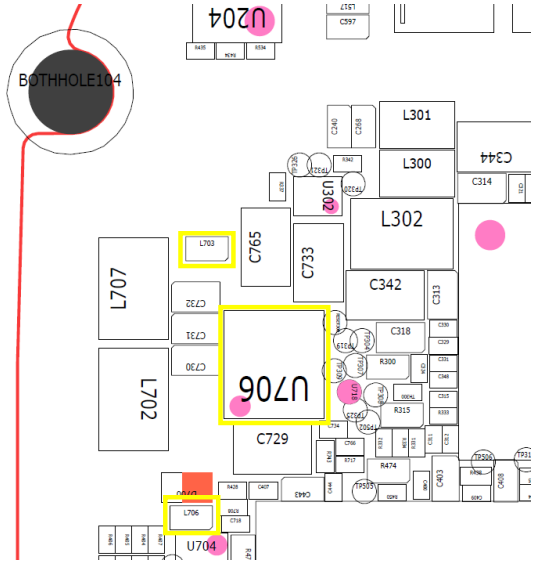




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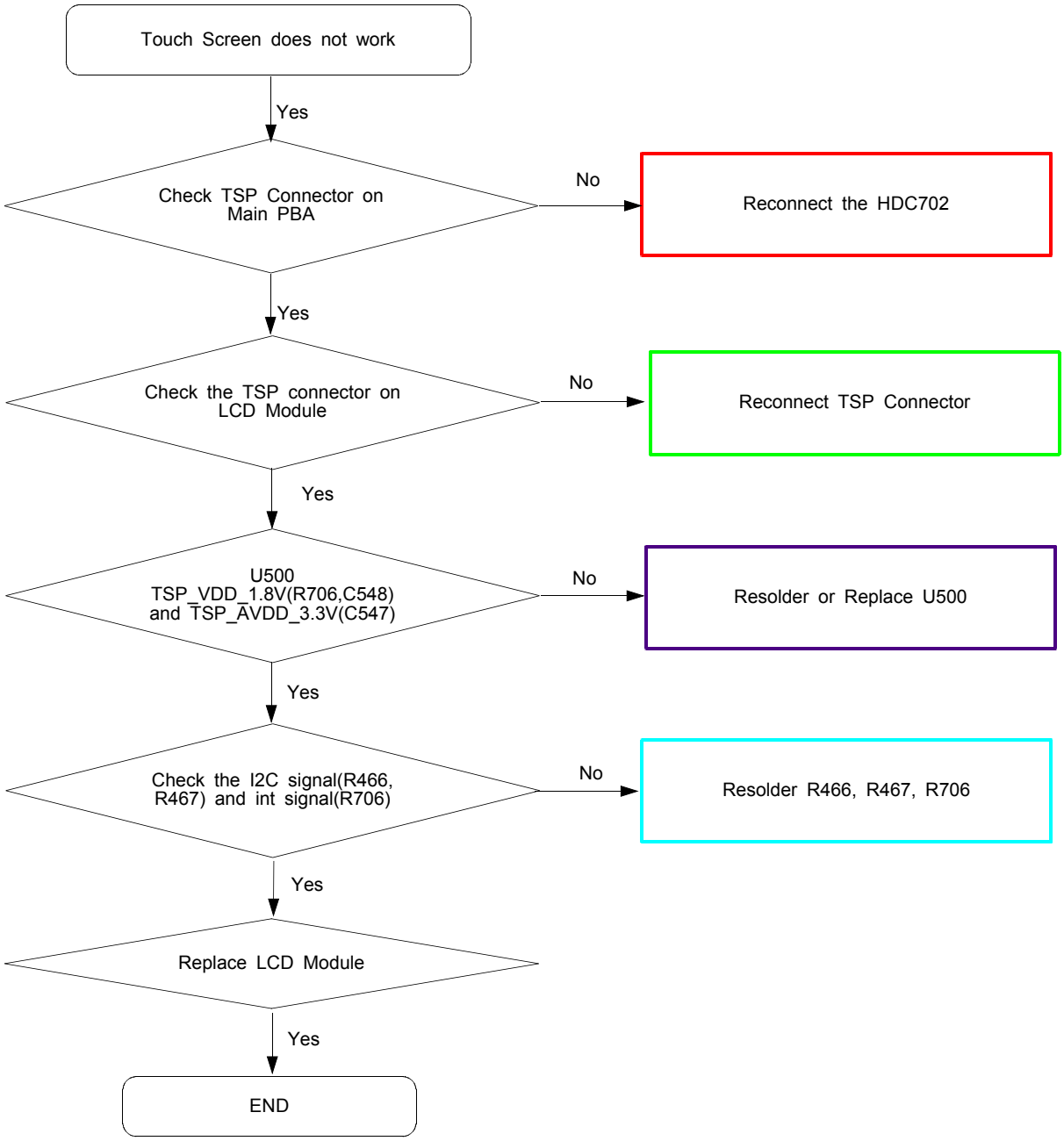
## 8-3-16. TSP



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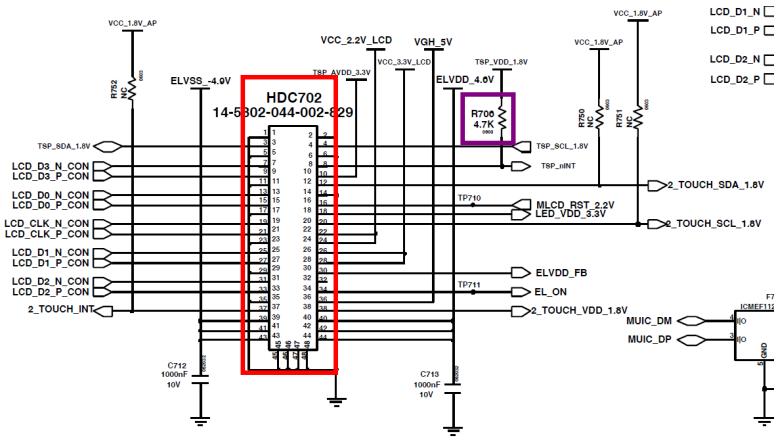


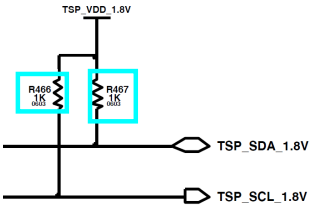

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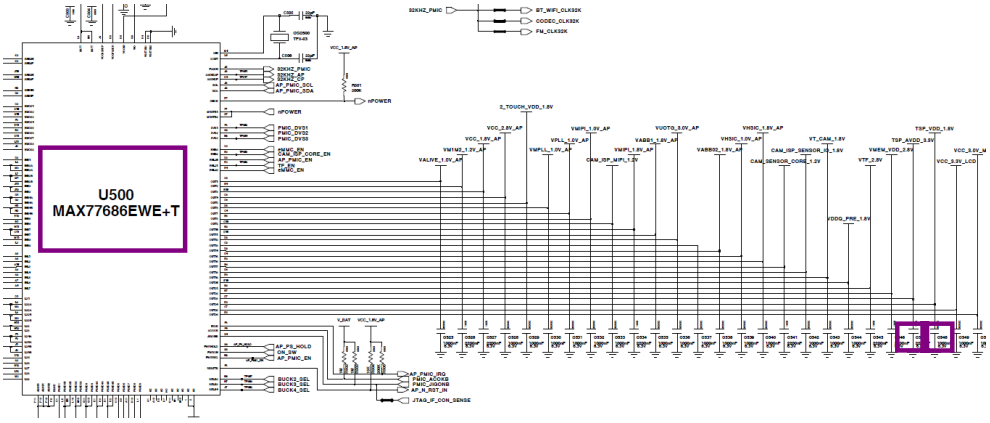

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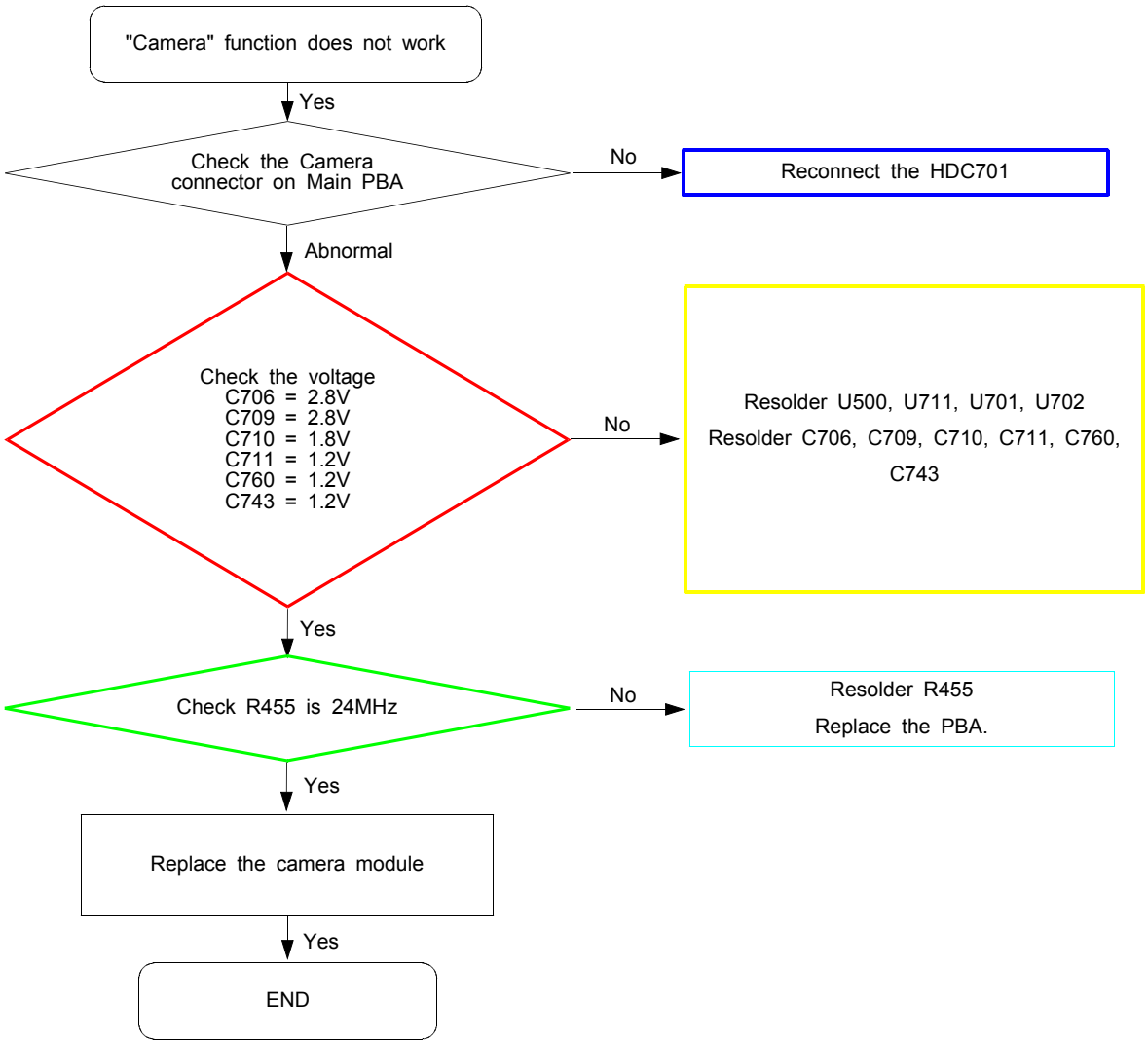
## 8-3-17. 8M CAM



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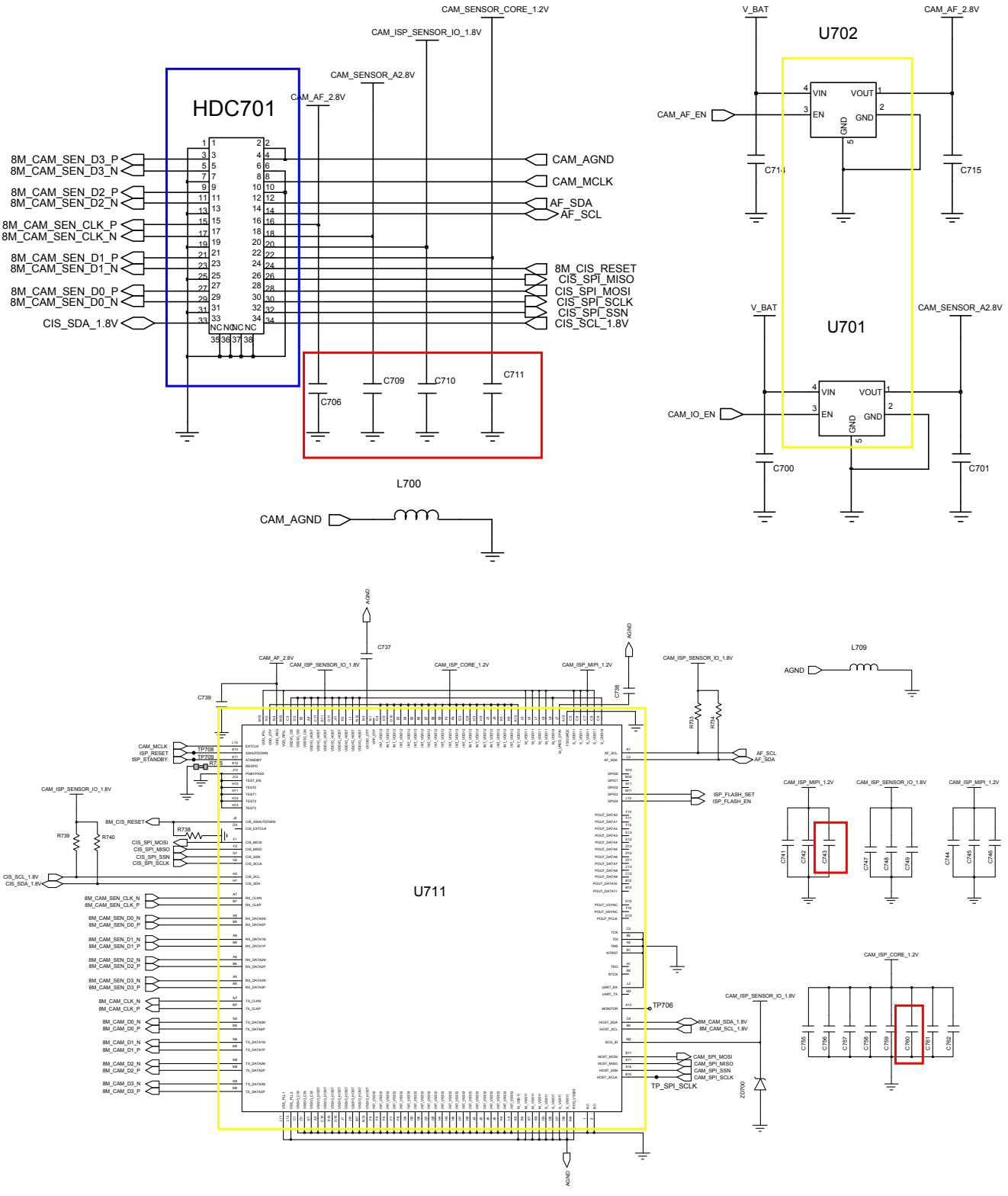




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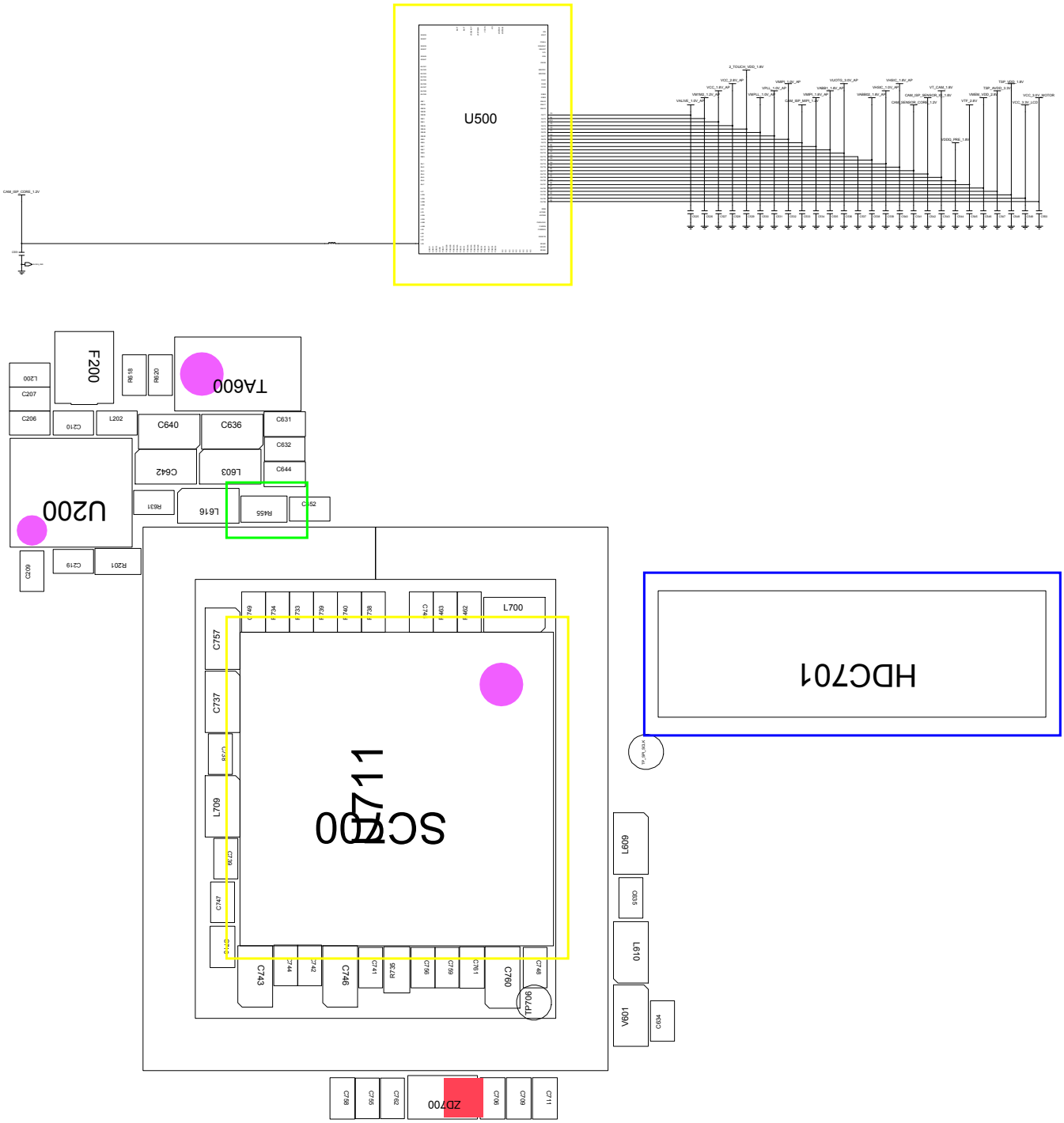




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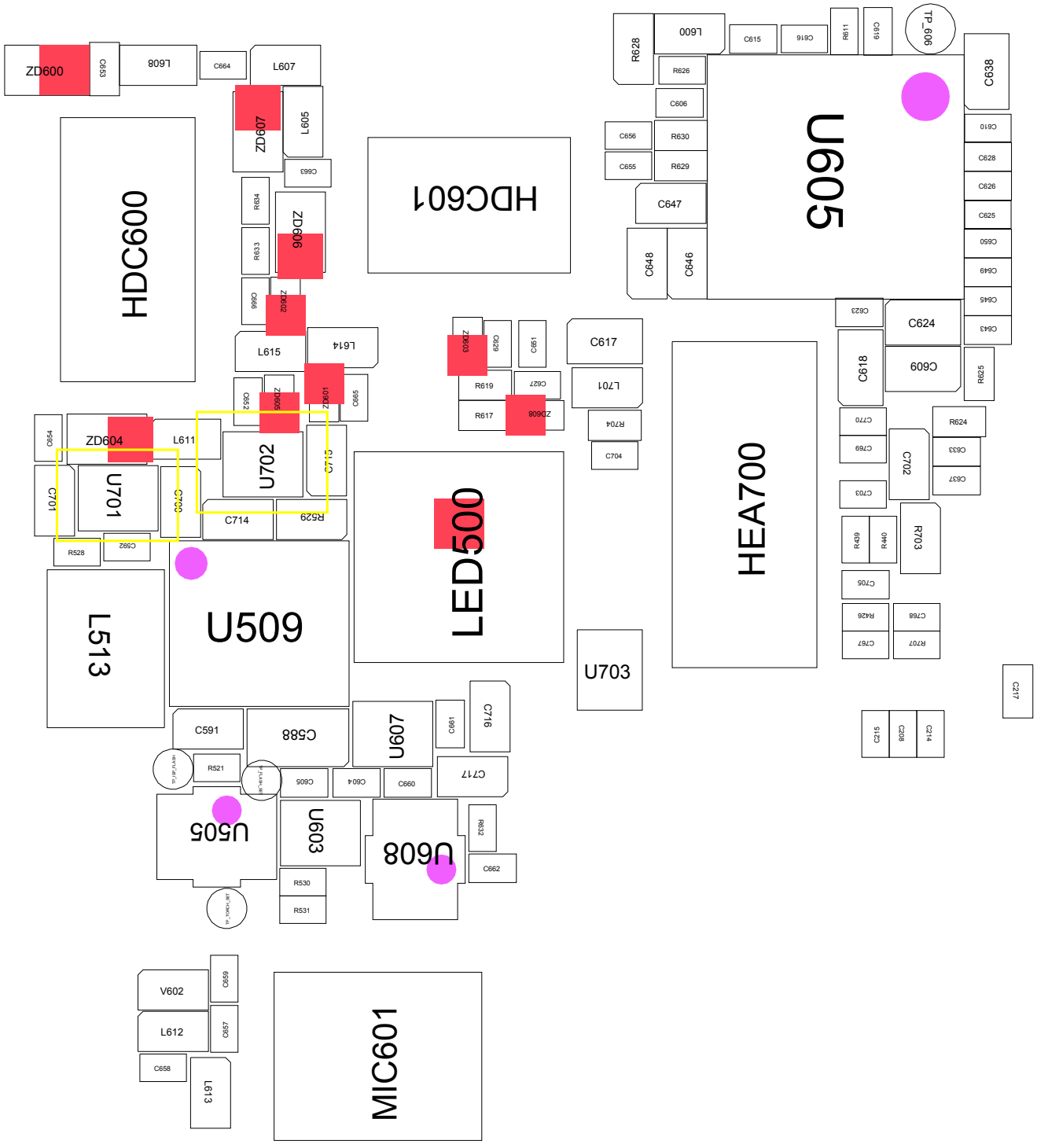




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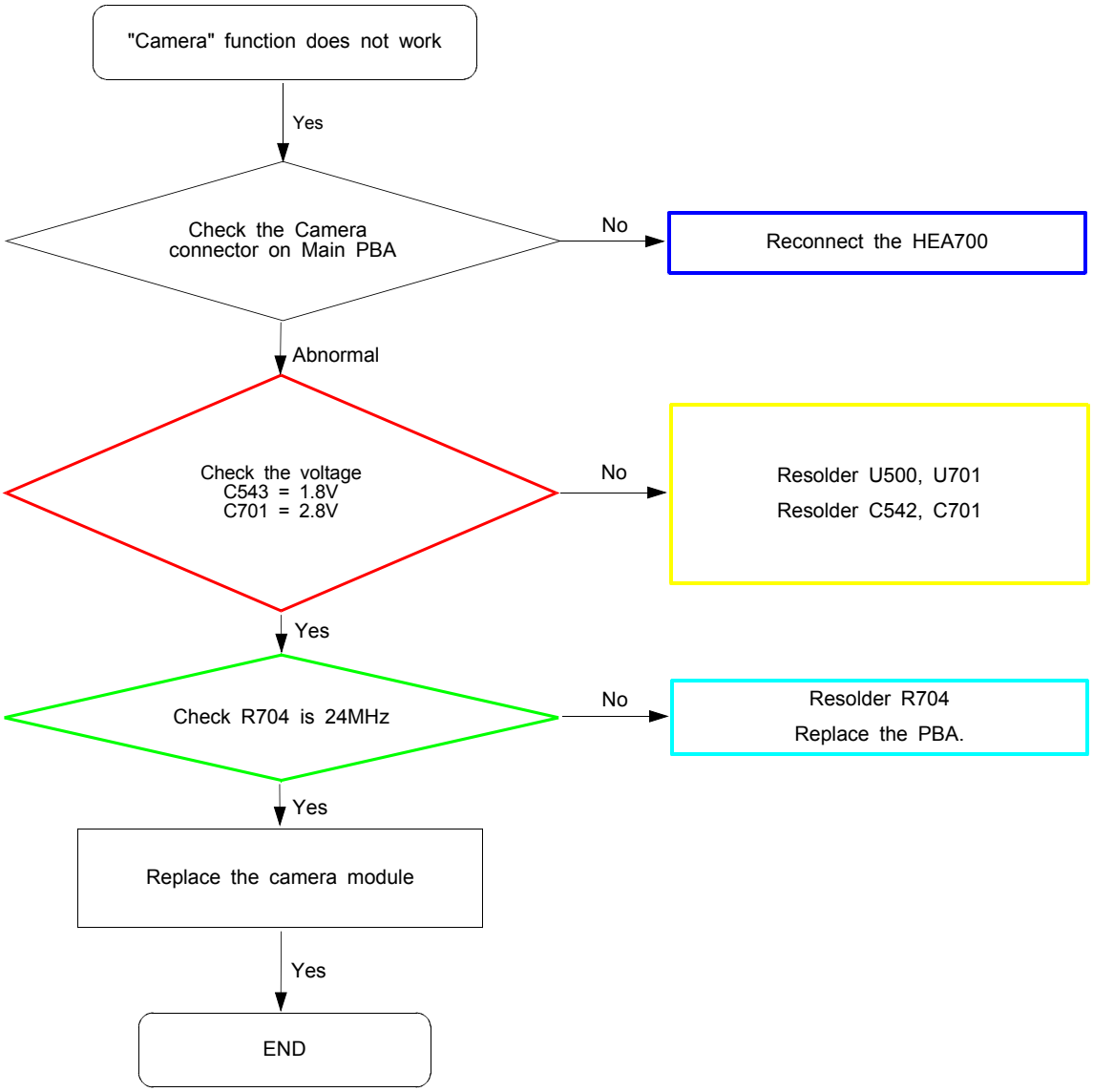
## 8-3-18. 1.9M CAM



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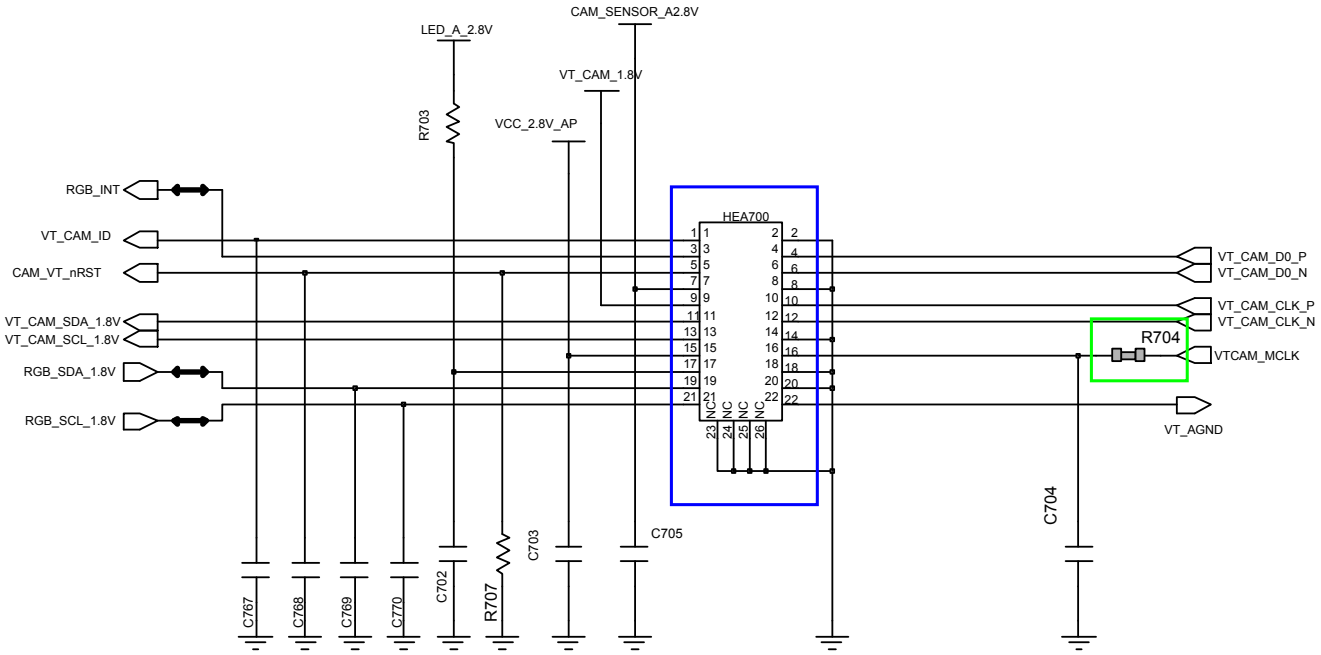


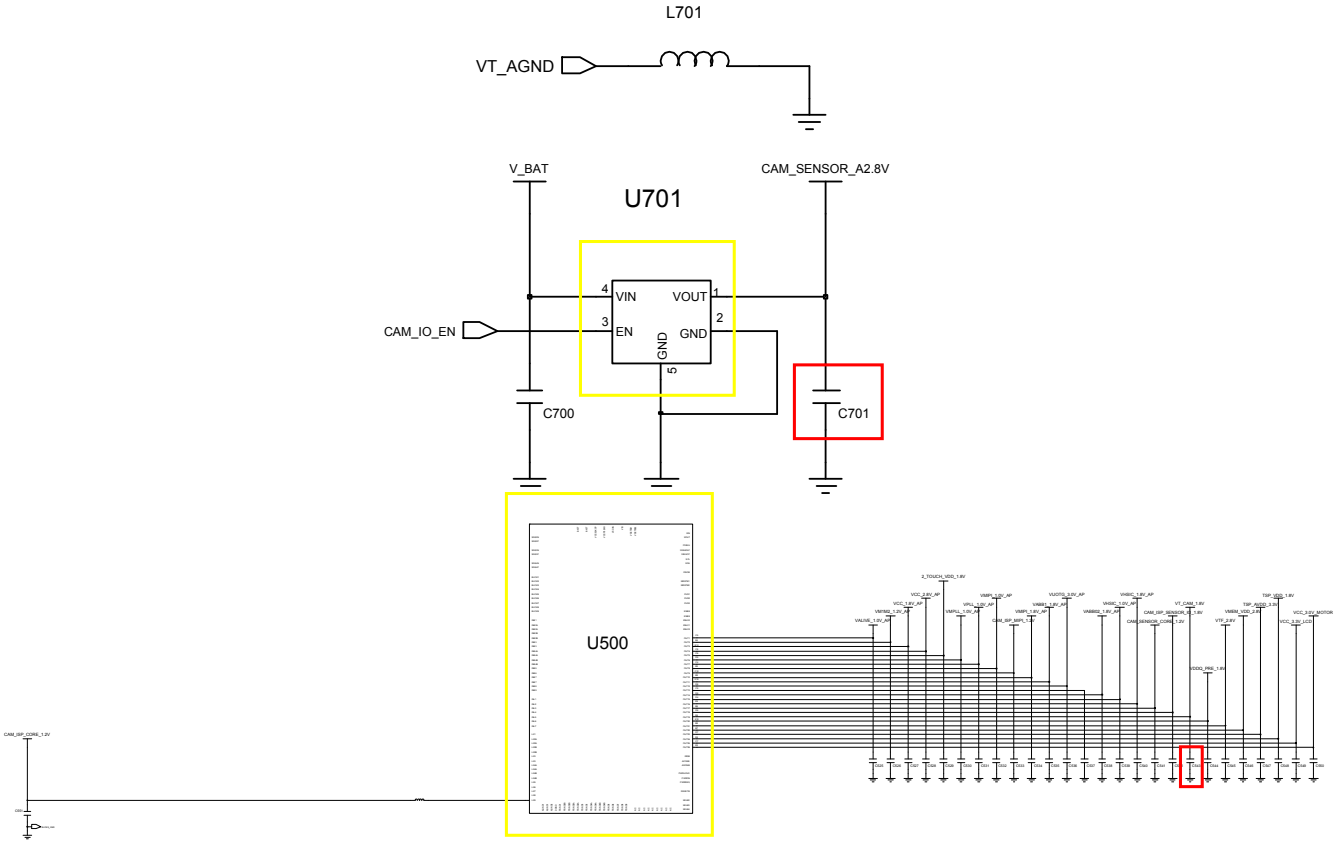




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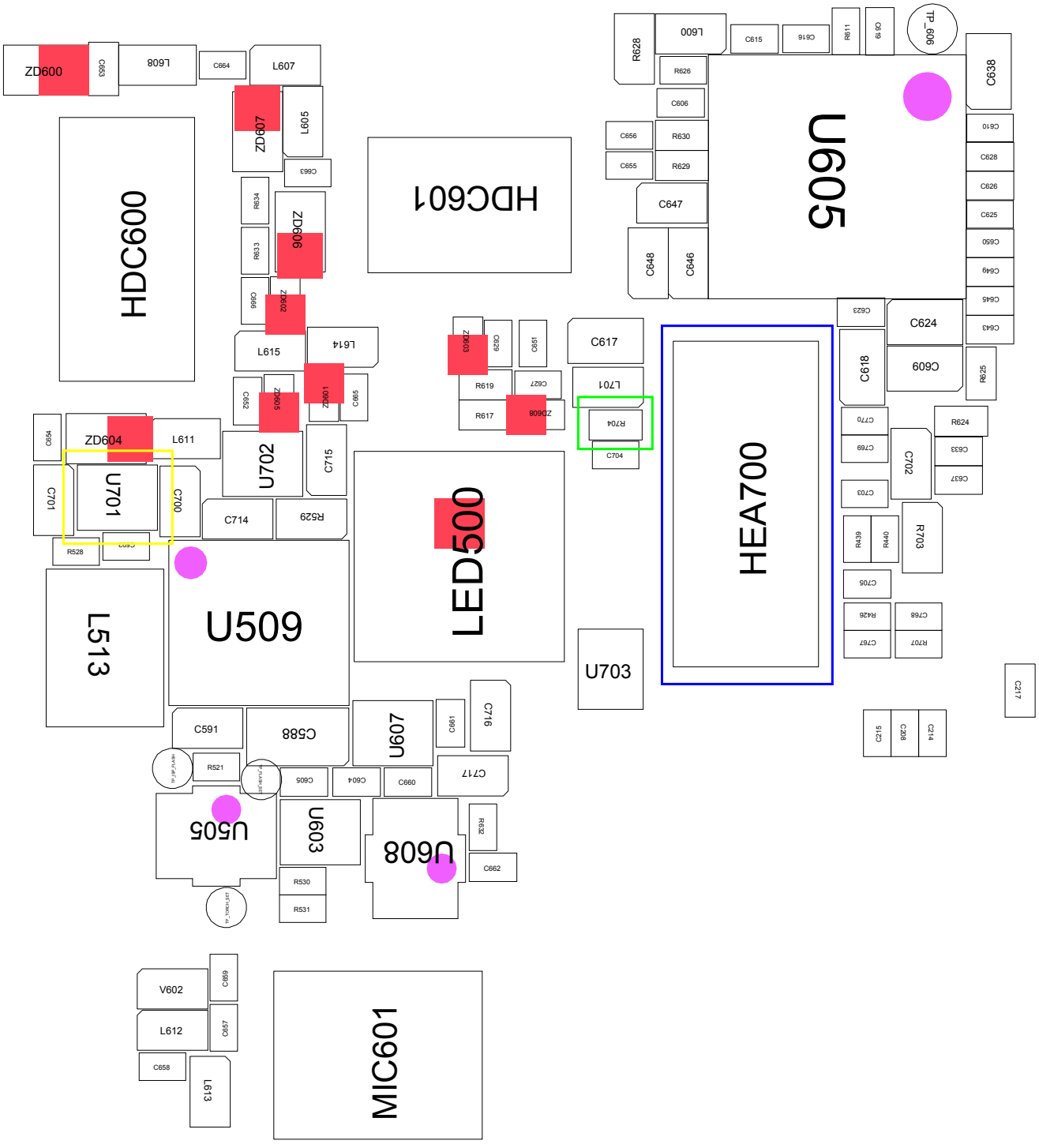




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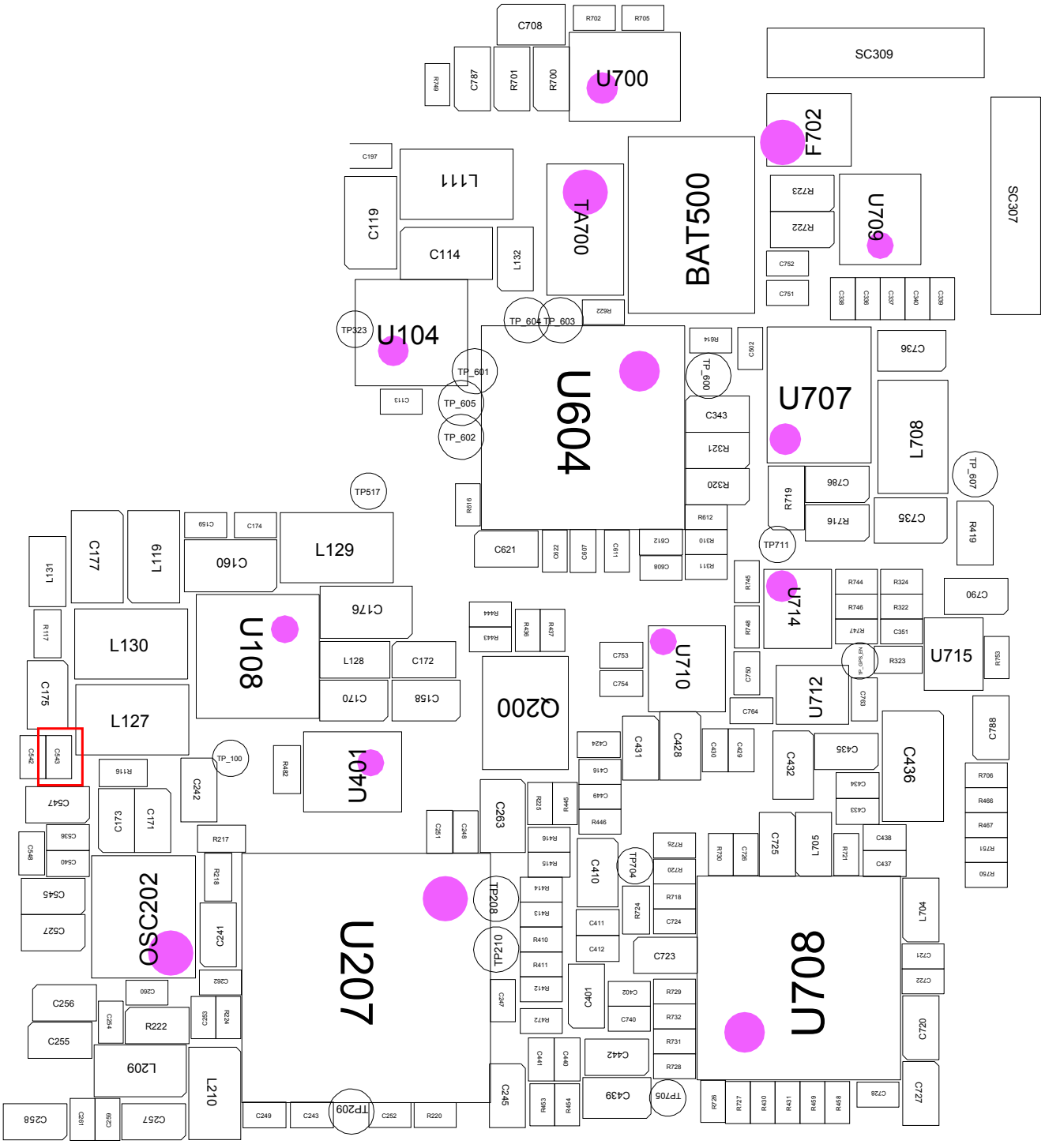




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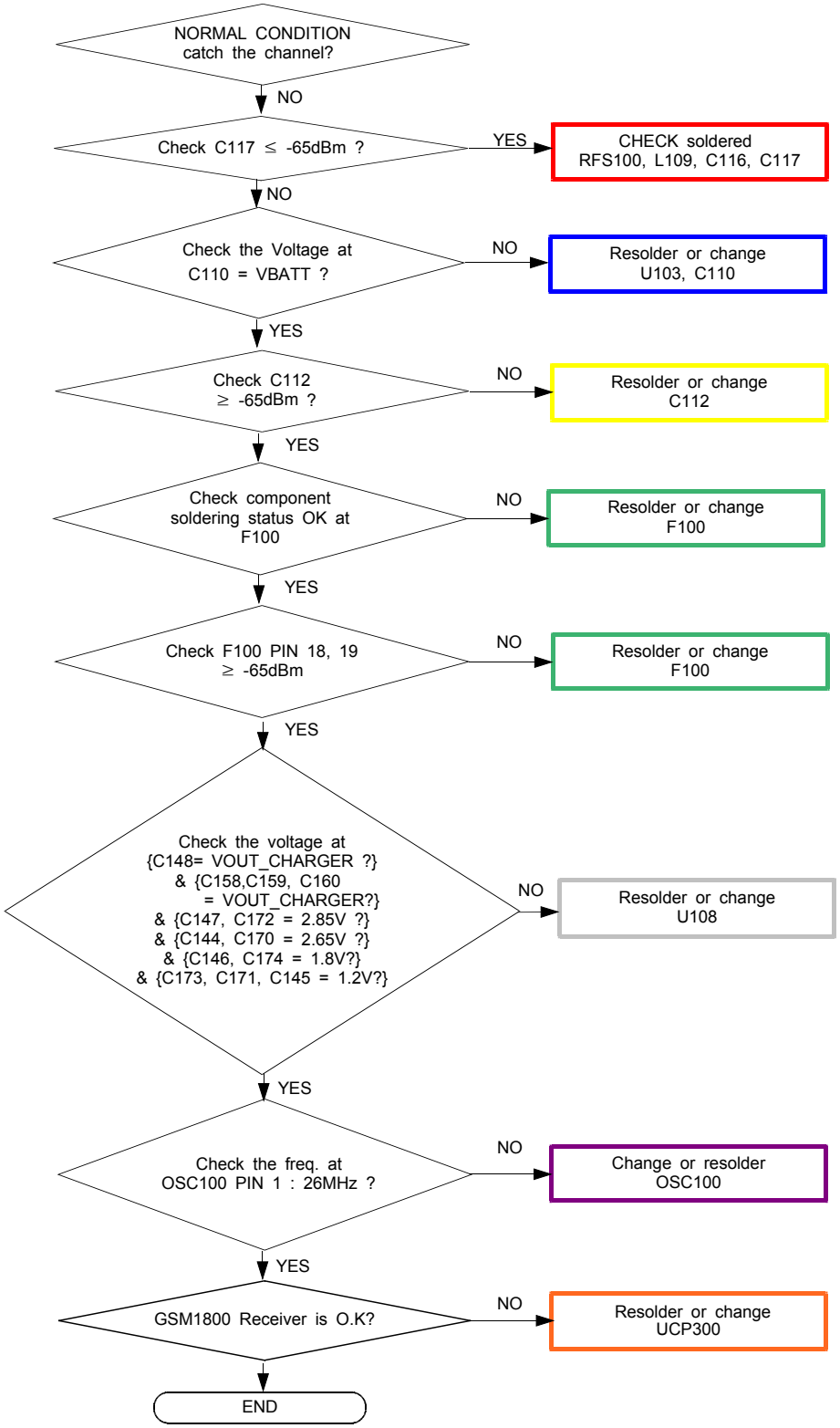
## 8-3-19. GSM1800 RX



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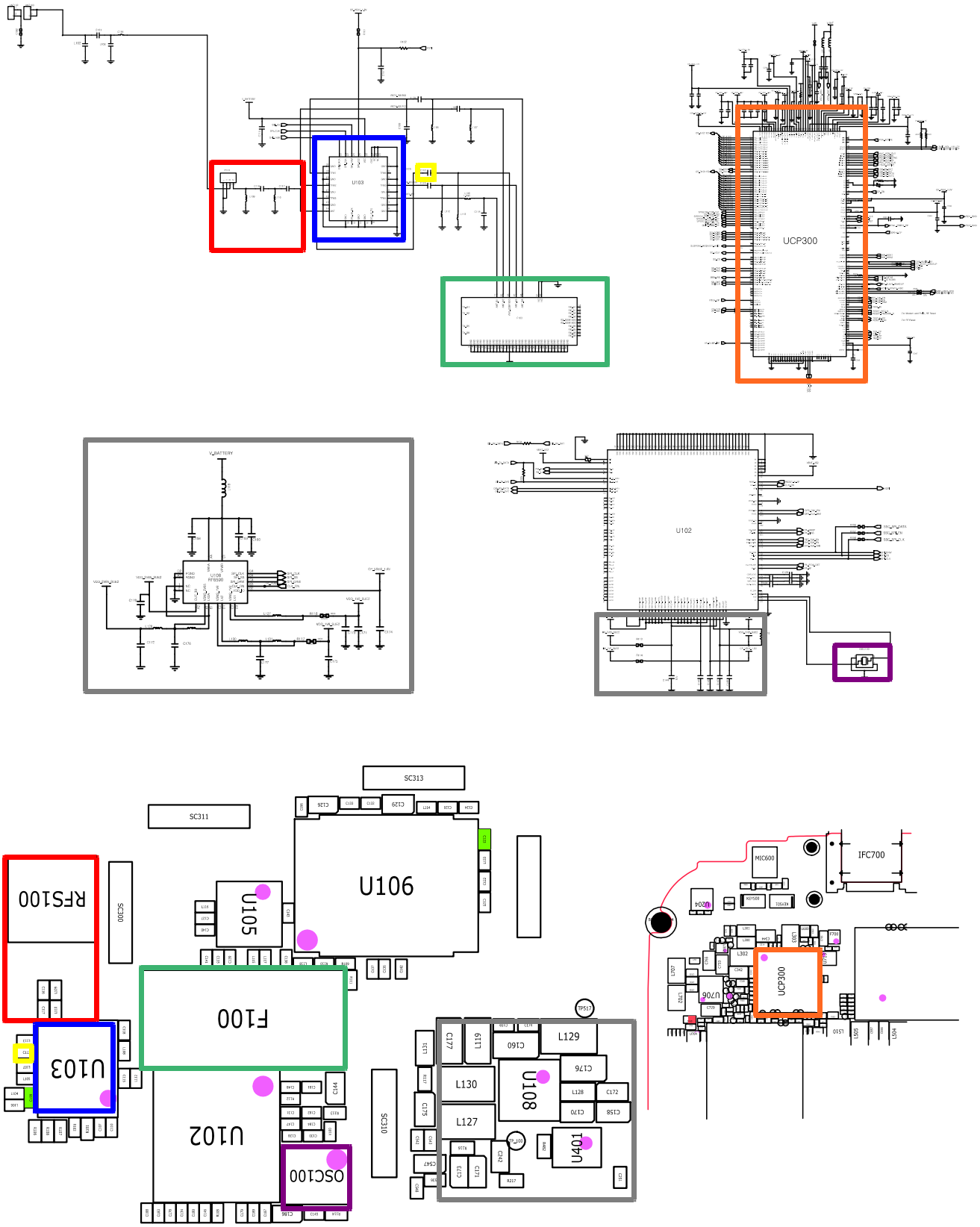




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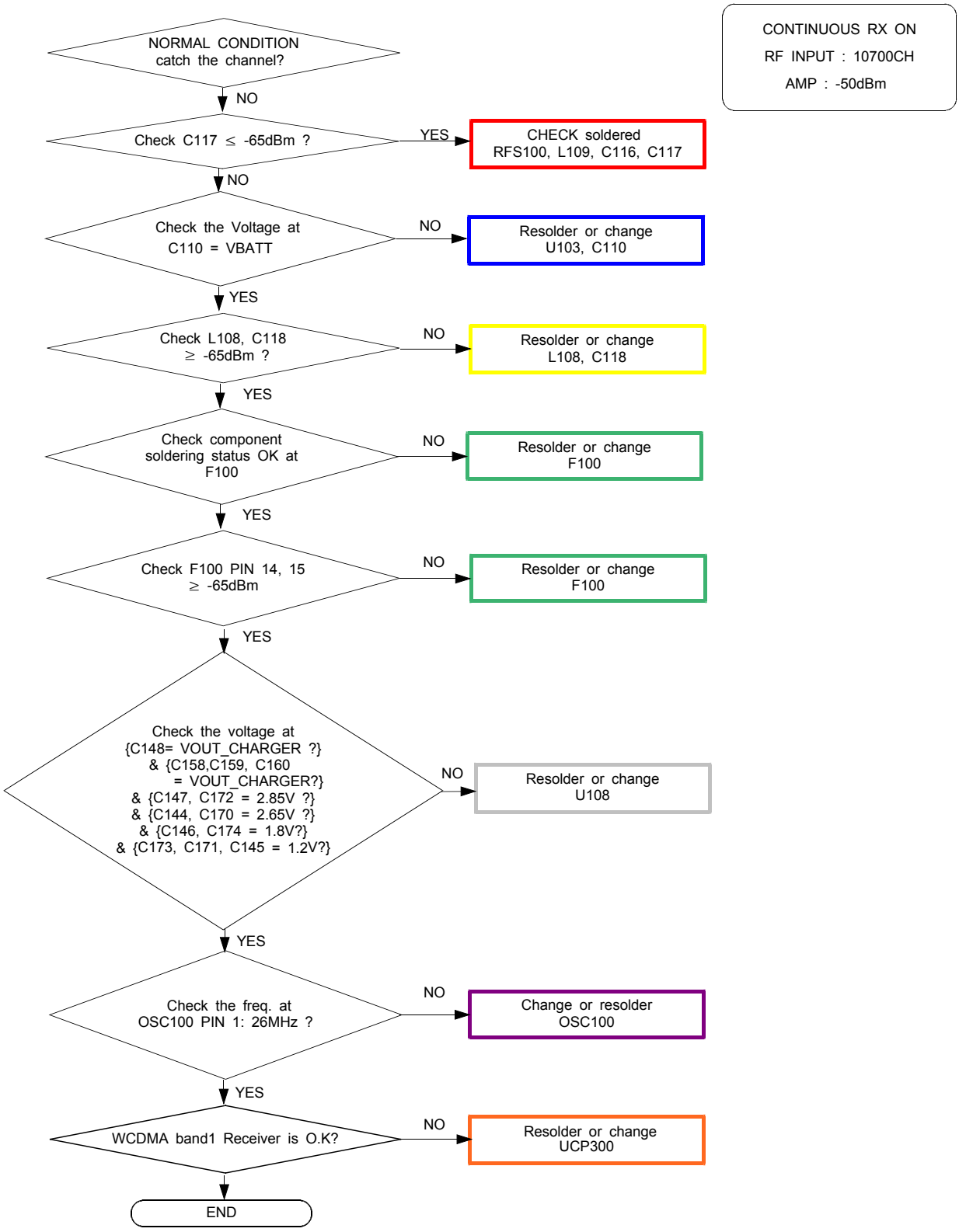
## 8-3-20. WCDMA Band1 RX


CONTINUOUS RX ON
RF INPUT : 10700CH
AMP : -50dBm
NORMAL CONDITION catch the channel?
NO
Check C117 ≤ -65dBm ?
YES
CHECK soldered RFS100, L109, C116, C117
NO
Check the Voltage at C110 = VBATT
NO
Resolder or change U103, C110
YES
Check L108, C118 ≥ -65dBm ?
NO
Resolder or change L108, C118
YES
Check component soldering status OK at F100
NO
Resolder or change F100
YES
Check F100 PIN 14, 15 ≥ -65dBm
NO
Resolder or change F100
YES
Check the voltage at {C148= VOUT_CHARGER ?} & {C158,C159, C160 = VOUT_CHARGER?} & {C147, C172 = 2.85V ?} & {C144, C170 = 2.65V ?} & {C146, C174 = 1.8V?} & {C173, C171, C145 = 1.2V?}
NO
Resolder or change U108
YES
Check the freq. at OSC100 PIN 1: 26MHz ?
NO
Change or resolder OSC100
YES
WCDMA band1 Receiver is O.K?
NO
Resolder or change UCP300
END



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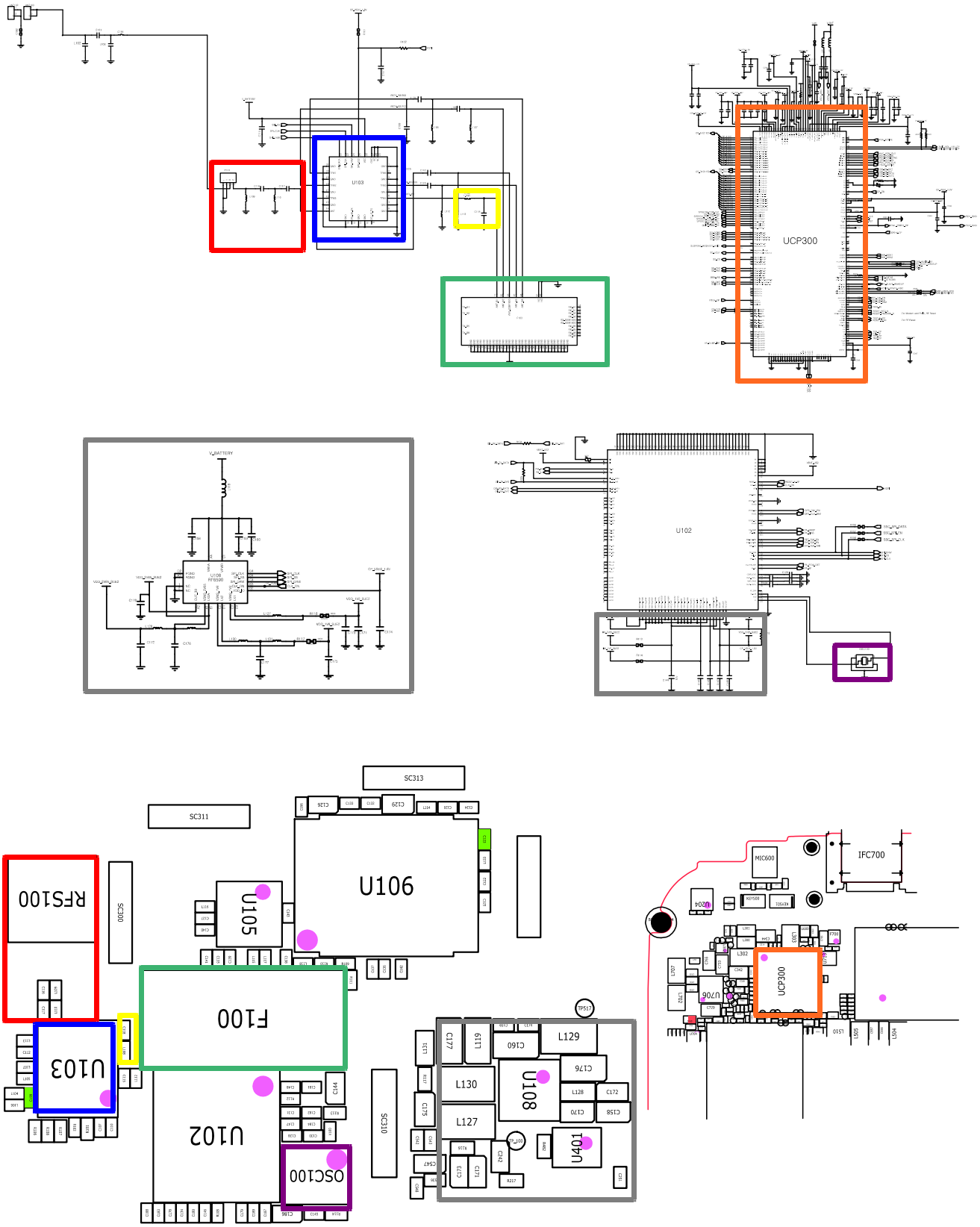




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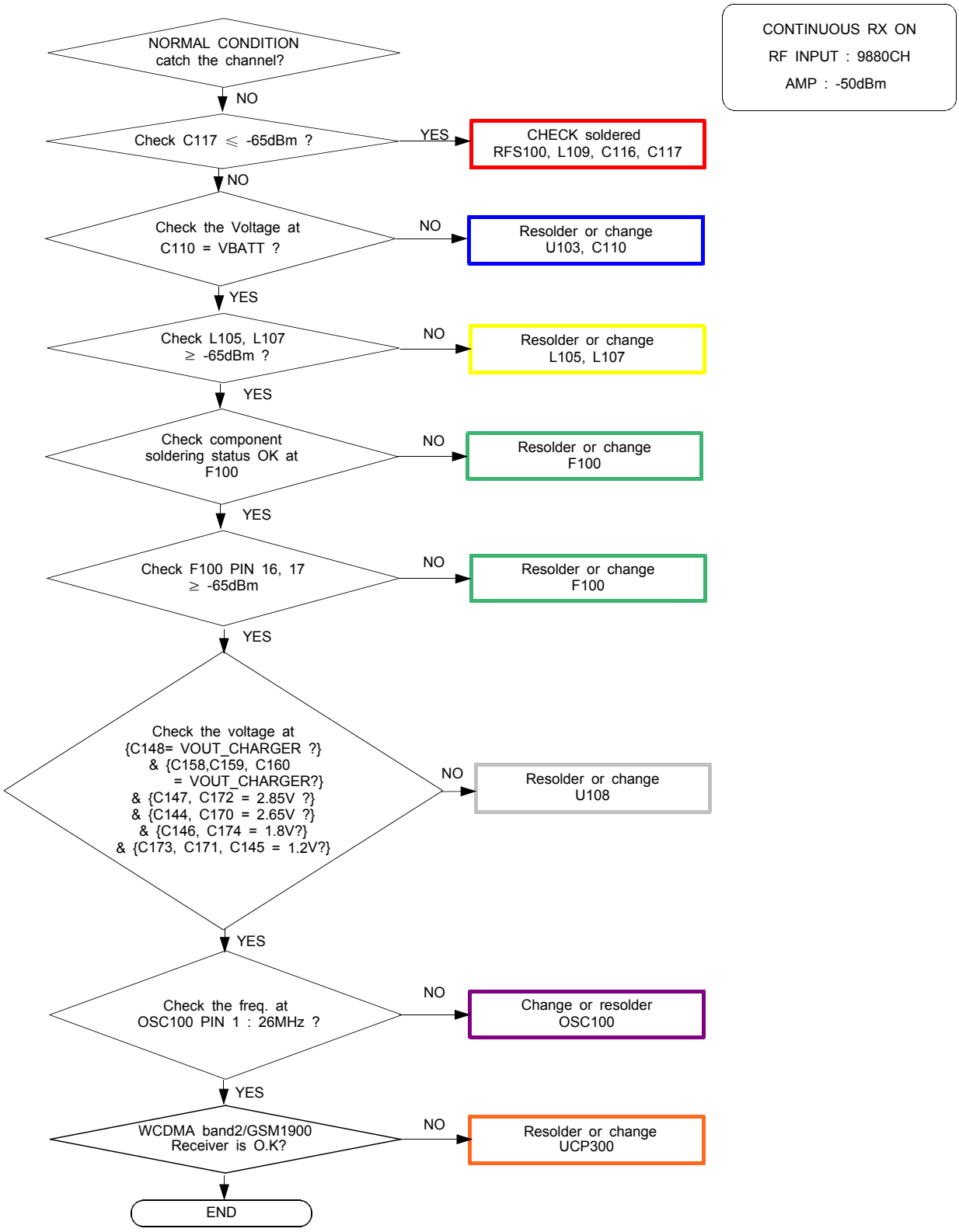
## 8-3-21. WCDMA Band2 / GSM1900 RX


CONTINUOUS RX ON
RF INPUT : 9880CH
AMP : -50dBm
NORMAL CONDITION catch the channel?
NO
Check C117 ≤ -65dBm ?
YES
CHECK soldered RFS100, L109, C116, C117
NO
Check the Voltage at C110 = VBATT ?
NO
Resolder or change U103, C110
YES
Check L105, L107 ≥ -65dBm ?
NO
Resolder or change L105, L107
YES
Check component soldering status OK at F100
NO
Resolder or change F100
YES
Check F100 PIN 16, 17 ≥ -65dBm
NO
Resolder or change F100
YES
Check the voltage at {C148= VOUT_CHARGER ?} & {C158,C159, C160 = VOUT_CHARGER?} & {C147, C172 = 2.85V ?} & {C144, C170 = 2.65V ?} & {C146, C174 = 1.8V?} & {C173, C171, C145 = 1.2V?}
NO
Resolder or change U108
YES
Check the freq. at OSC100 PIN 1 : 26MHz ?
NO
Change or resolder OSC100
YES
WCDMA band2/GSM1900 Receiver is O.K?
NO
Resolder or change UCP300
END



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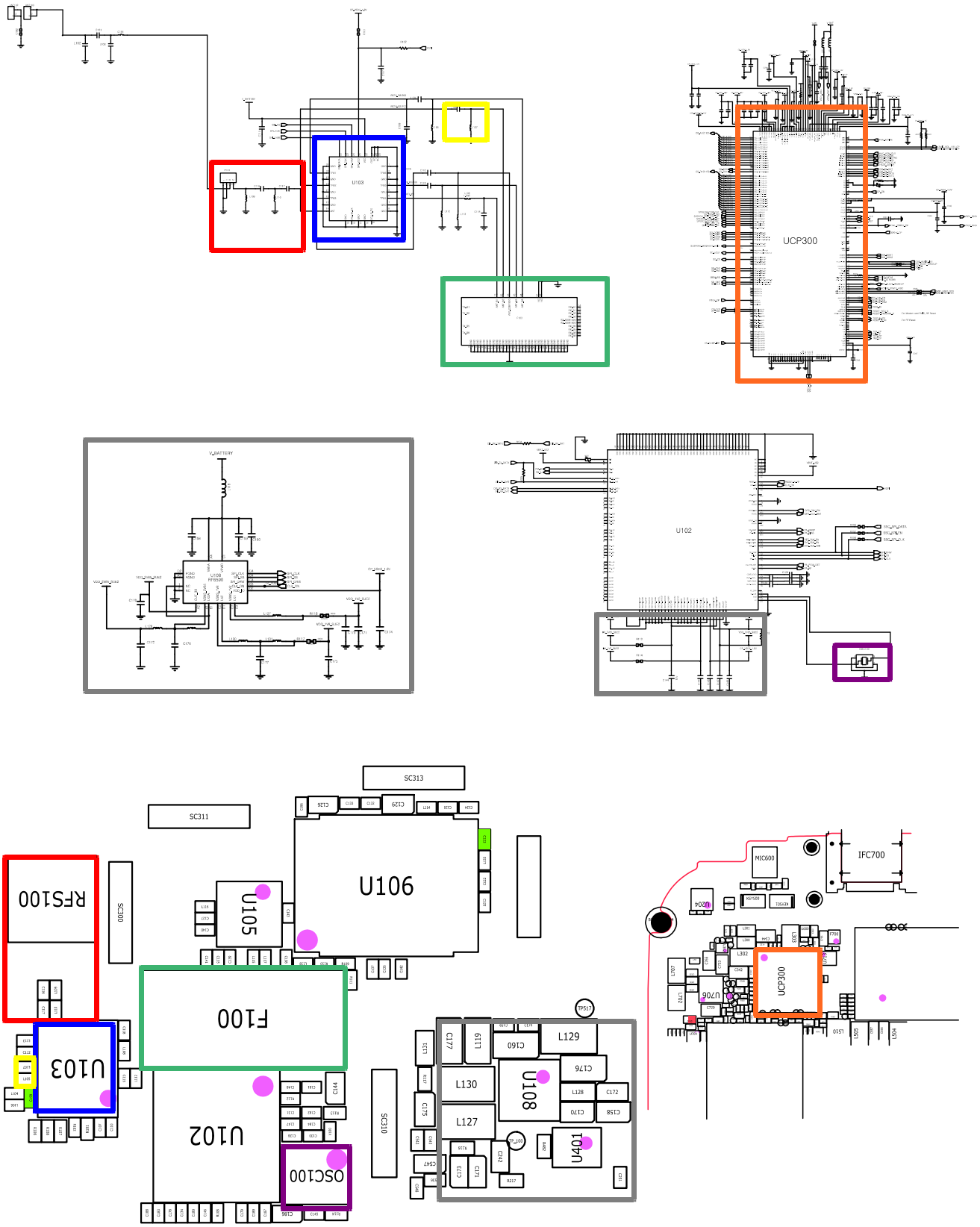




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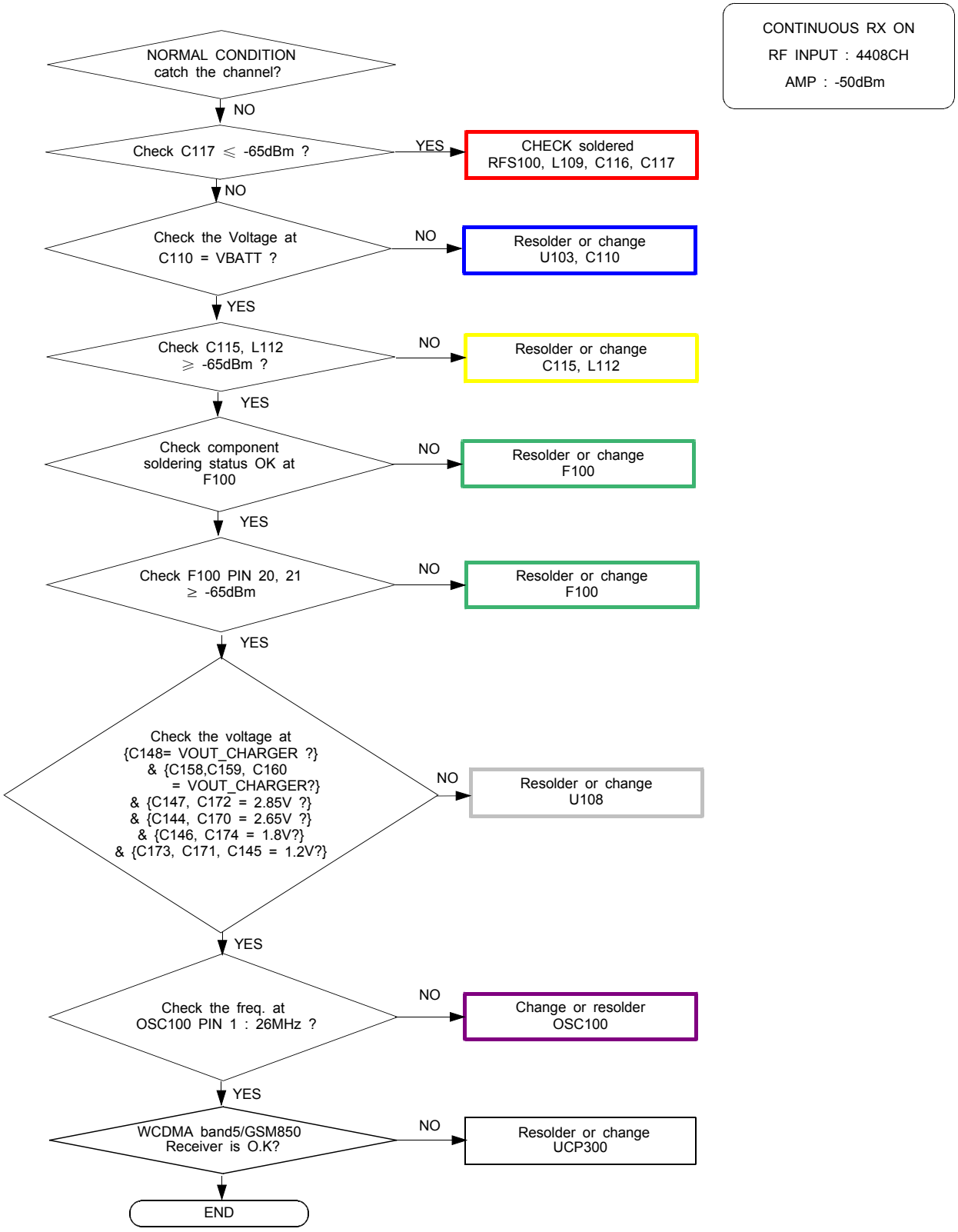
## 8-3-22. WCDMA Band5 / GSM 850 RX


CONTINUOUS RX ON
RF INPUT : 4408CH
AMP : -50dBm
NORMAL CONDITION catch the channel?
NO
Check C117 ≤ -65dBm ?
YES
CHECK soldered RFS100, L109, C116, C117
NO
Check the Voltage at C110 = VBATT ?
NO
Resolder or change U103, C110
YES
Check C115, L112 ≥ -65dBm ?
NO
Resolder or change C115, L112
YES
Check component soldering status OK at F100
NO
Resolder or change F100
YES
Check F100 PIN 20, 21 ≥ -65dBm
NO
Resolder or change F100
YES
Check the voltage at {C148= VOUT_CHARGER ?} & {C158,C159, C160 = VOUT_CHARGER?} & {C147, C172 = 2.85V ?} & {C144, C170 = 2.65V ?} & {C146, C174 = 1.8V?} & {C173, C171, C145 = 1.2V?}
NO
Resolder or change U108
YES
Check the freq. at OSC100 PIN 1 : 26MHz ?
NO
Change or resolder OSC100
YES
WCDMA band5/GSM850 Receiver is O.K?
NO
Resolder or change UCP300
END



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